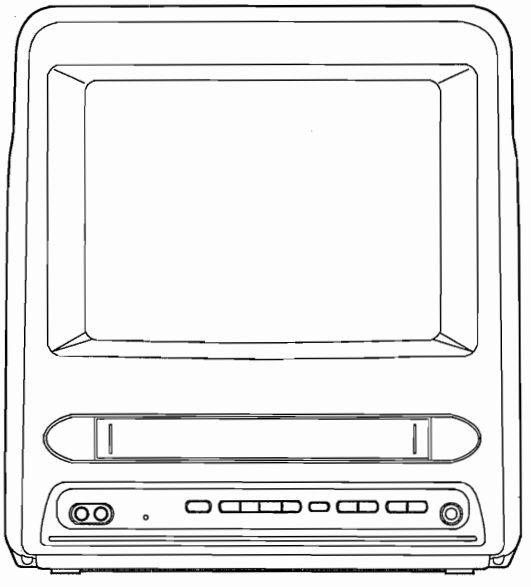
FUNAI Symphonic

SERVICE MANUAL

Sec. 1: Main Section	Sec. 2: Deck Mechanism Section	Sec. 3: Exploded Views and Parts List Section
● Specifications ● Preparation for Servicing ● Adjustment Procedures ● Schematic Diagrams ● CBA' s	● Standard Maintenance ● Alignment for Mechanism ● Disassembly/Assembly of Mechanism	● Exploded Views ● Parts List

9"COLOR TV/VCR COMBINATION

TVCR9G1/F9TRG1



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

9" COLOR TV/VCR COMBINATION

TVCR9G1
F9TRG1

Sec. 1: Main Section

- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA' s**

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SPECIFICATIONS

* Mode ---------SP mode unless otherwise specified
* Test input terminal

<Except Tuner> ----------Video input (1Vp-p)
Audio input (-10dB)
<Tuner> ----------Ant. input (80dBμV) Video: 87.5%
Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	12
	Vertical	%	—	10
3. High Voltage	—	kV	18	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.3
	Corner	m/m	—	1.5
	Side	m/m	—	1.2
2. Tint Control Range	—	deg	±25	—
3. Contrast Control Range	—	dB	6	4
4. Brightness	APL 100%	ft-L	30	20
5. Color Temperature	—	K	8500-20MPCD	—

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P)	Line	230	200
2. Jitter (Low)	(R/P)	μS	0.05	0.2
3. S/N Chroma AM (SP)	(R/P)	dB	38	33
PM (SP)	(R/P)	dB	36	33
4. Wow & Flutter (RMS)	(R/P)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	43	40

<AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power (Max.)	(R/P)	W	0.8	0.6
2. Audio S/N (W/LPF)	(R/P)	dB	42	38
3. Audio Distortion (W/LPF)	(R/P)	%	3.0	5.0
4. Audio Freq. Response (-10dB Ref. 1KHz)	200Hz (R/P) 8kHz (R/P)	dB dB	-2.0 0	-2.0 ± 5.0 0 ± 6.0

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

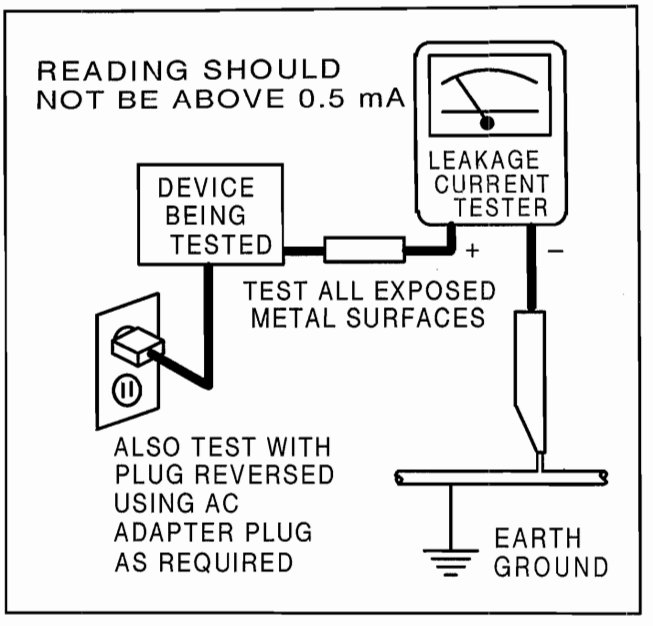
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. Antenna Cold Check - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. X-Radiation and High Voltage Limits - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing

is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not is- olated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu- ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.

Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing

2) Double insulated wires

3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape

2) PVC tubing

3) Spacers

4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.

K. Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector (discard it).

2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

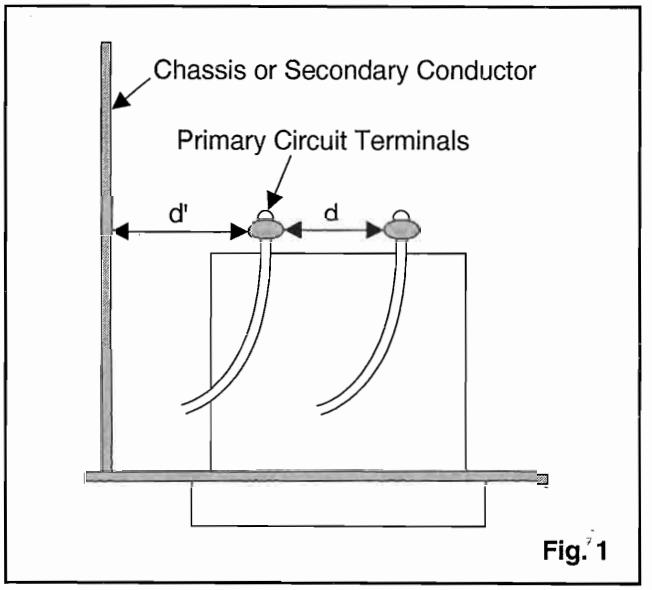


Fig. 1

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

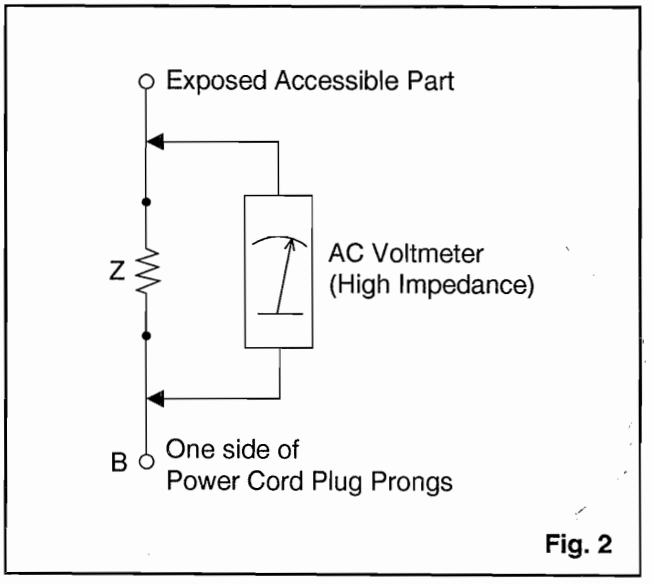


Fig. 2

Table 2 : Leakage current ratings for selected areas

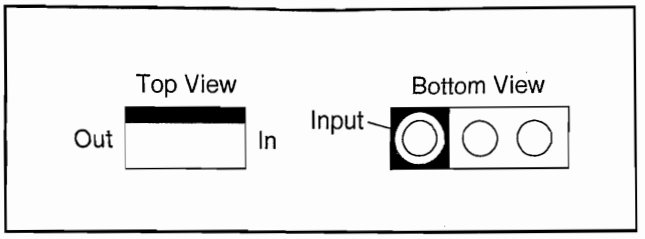
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA	0.15μF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

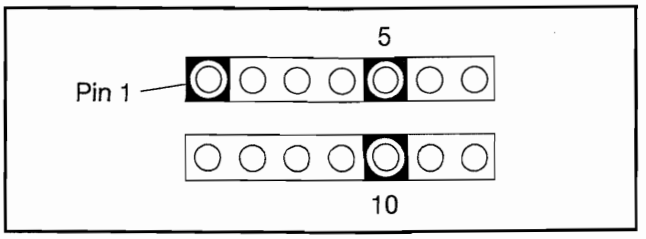
STANDARD NOTES FOR SERVICING

Circuit Board Indications

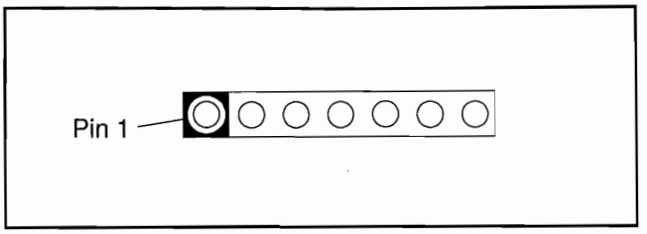
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin are indicated as shown:

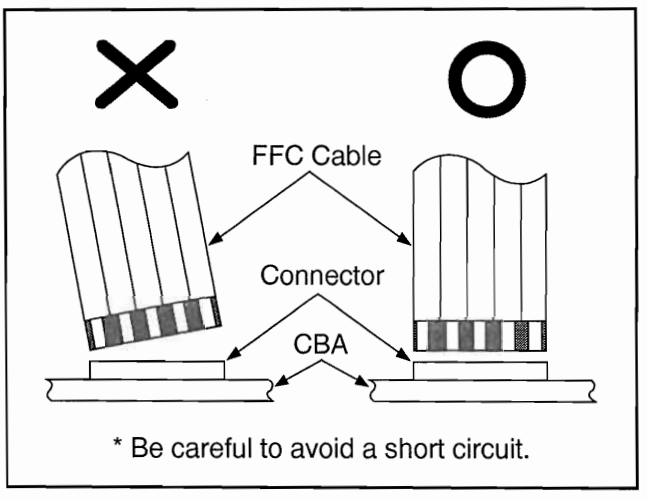


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.

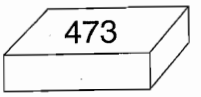


[CBA= Circuit Board Assembly]

How to Read the Values of the Rectangular Type Chip Components

Example:

(a) Resistor



= 473 = 47 [kΩ]

(Top View)

(b) Capacitor

= Not Shown

(Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The Following Procedures are Recommended for the Replacement of the Leadless Components Used in this Unit.

1. Preparation for replacement

a. Soldering Iron
Use a pencil-type soldering iron (less than 30 watts).

b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
Do not apply heat for more than 4 seconds.

d. Preheating
Leadless capacitor must be preheated before installation. (130°C~150°C, for about two minutes.)

Notes:

a. Leadless components must not be reused after removal.

b. Excessive mechanical stress and rubbing for the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove leadless component with a twisting motion.

Notes:

a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.

b. Take care not to break the copper foil on the printed board.

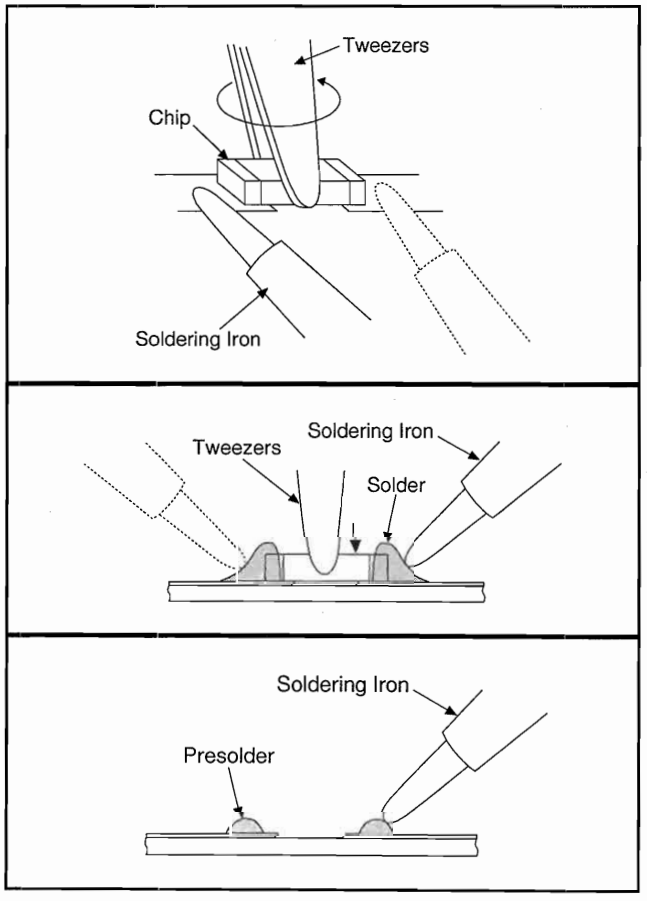
3. Installing the leadless component

a. Presolder the contact points of the circuit board.

b. Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

Caution:

1. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)

b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack- IC (See Fig. S-1-7).

c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

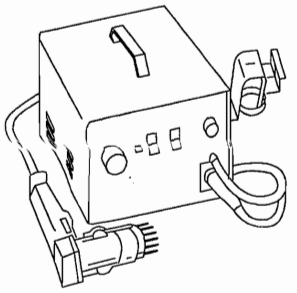


Fig. S-1-1

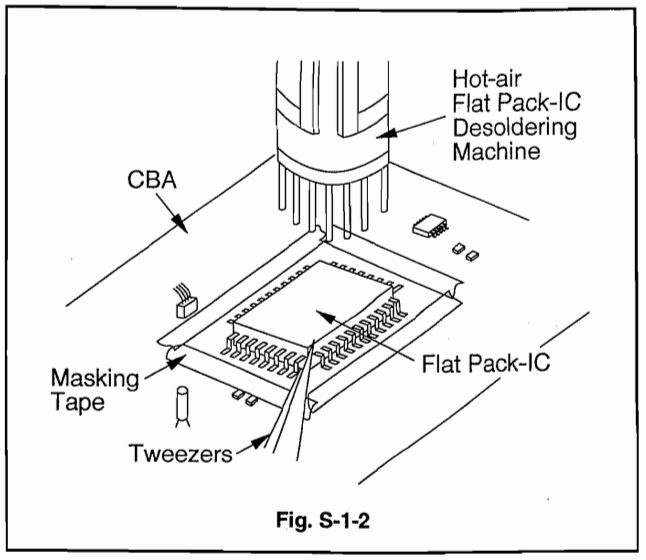


Fig. S-1-2

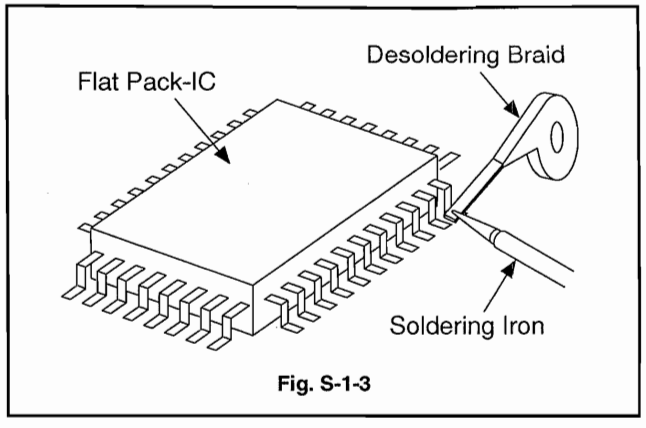


Fig. S-1-3

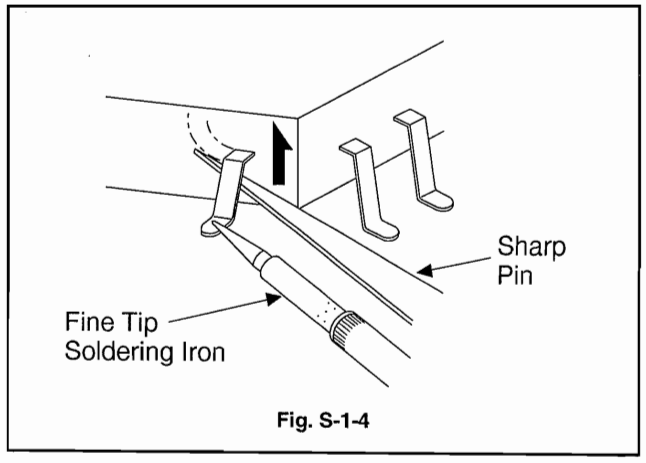


Fig. S-1-4

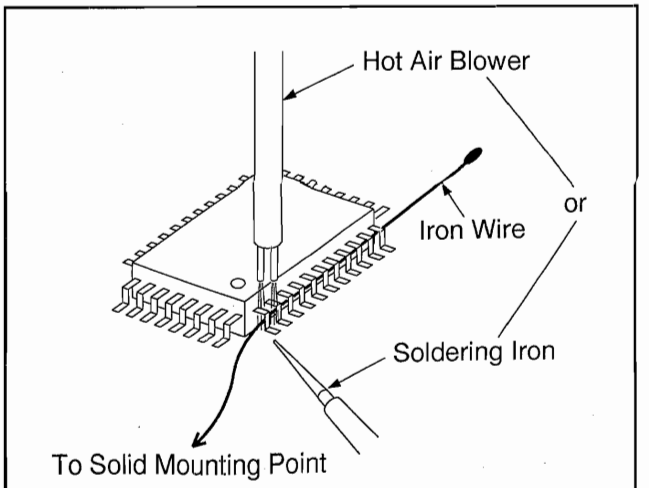


Fig. S-1-5

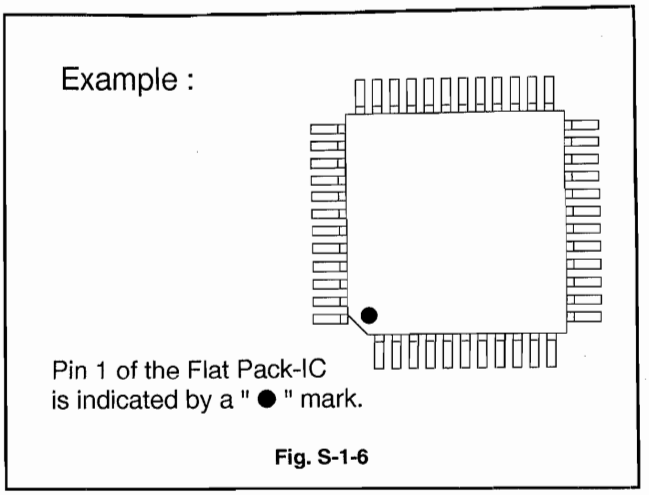


Fig. S-1-6

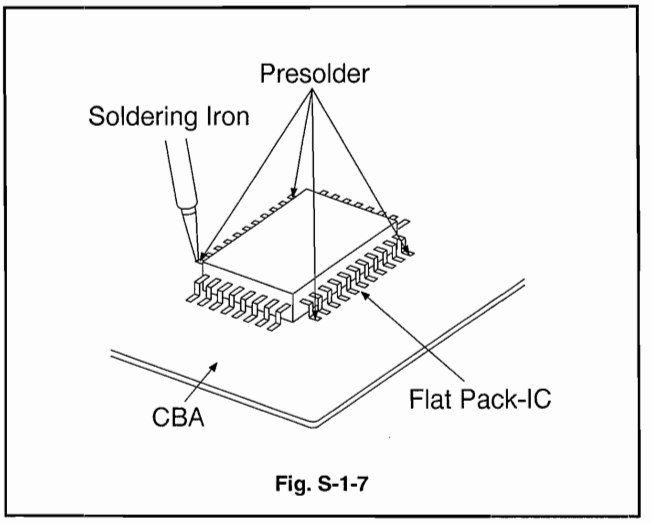


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

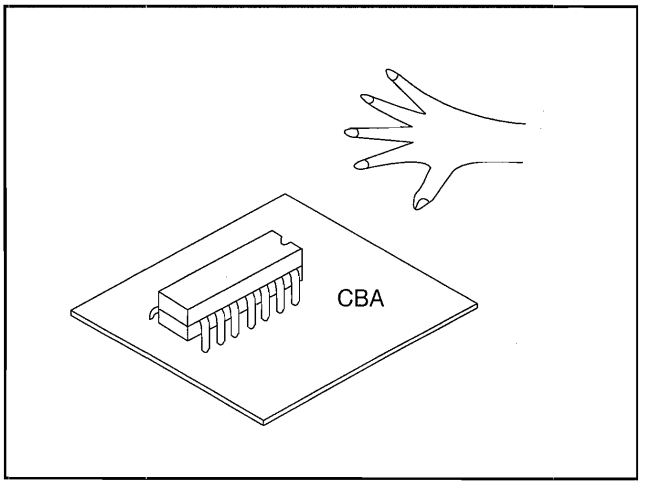
Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

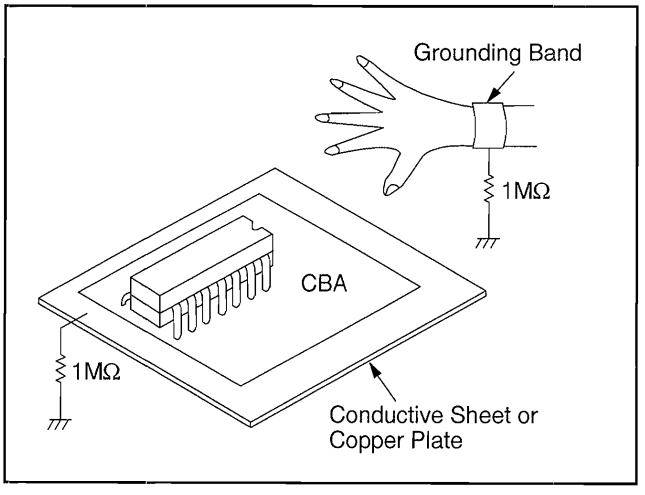
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

Incorrect



Correct



PREPARATION FOR SERVICING

How to Use U15 Deck Extension Cable

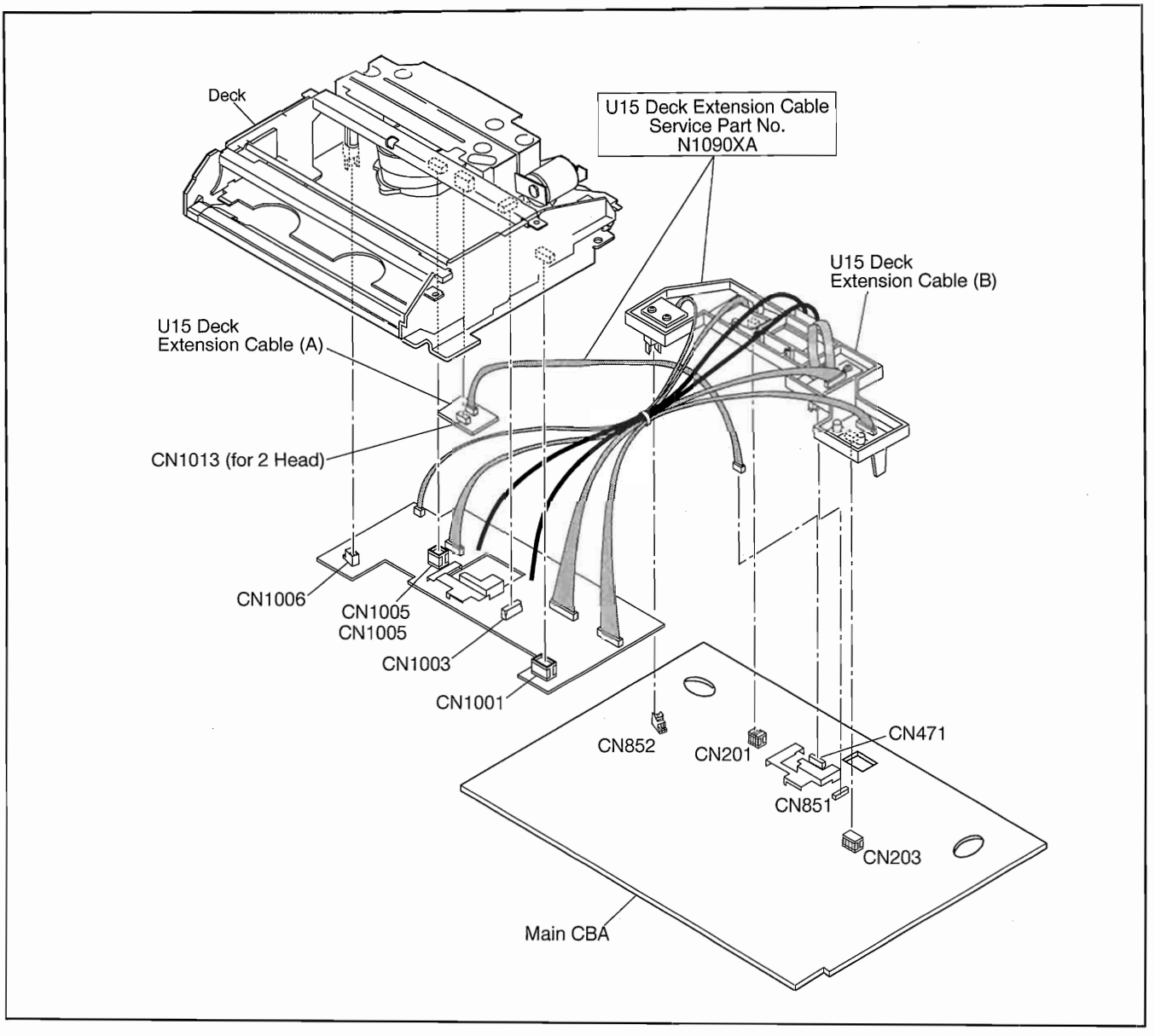
(1) Remove Deck Mechanism Assembly. If needed, remove Main CBA from Tray Chassis.

Refer to " Disassembly Instructions" on page 1-6-1.

(2) Connect Main CBA and Deck with U15 Deck Extension Cable (A) as shown in Fig. 1. And connect Main CBA and Deck with U15 Deck Extension cable (B) as shown in fig. 1.

(U15 Deck Extension Cable : N1090XA)

Note: There are 3 types of U15 Deck Extension Cable. (A). They are for 2 Head, 4 Head, and Hi-Fi. Use a connector indicated as shown. Be careful not to let the unused connector contact other parts.



How to Enter the Service Mode

Caution: 1

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service: otherwise, the unit may operate unexpectedly.

Preparing: 1

1. Cover Q206 (START SENSOR) and Q205 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

1. Turn Power On.
2. Press Remote Control Keys as following order.

   MENU-->MUTE-->PAUSE-->MUTE
3. When enter the Service Mode, One of the Number (1 , 2 or 4) will display at corners of the Screen.
4. During the Service mode, Electrical Adjustment Mode can be select by Remote Control key.

   Details are as follows.

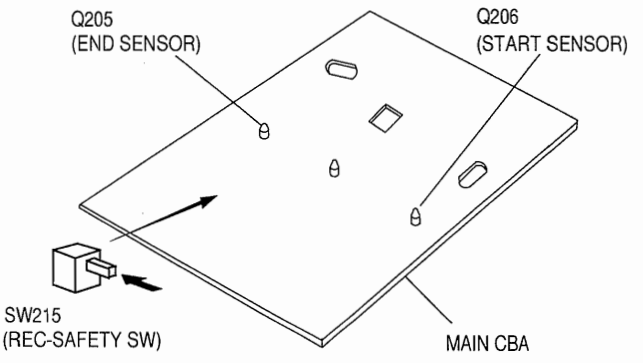
Key	Adjustment Mode
MENU	Picture Adjustment Mode : Press the MENU buttonto change from Bright, Contrast, Color, Tint, Sharpness. Press CH UP/DOWN Key to Display Initial Value, Maximun and Minimum Cyclically
0	Sub Brightness Adjustment Mode: See Adjustment Instructions Page 1-7-3 .
1	Cut-off Adjustment Mode: Shows only Holizontal Line. See Adjustment Instructions Page 1-7-2.
2	AGC Adjustment Mode: See Adjustment Instructions Page 1-7-2.
3	AFT Adjustment Mode: See Adjustment Instructions Page 1-7-1.
4	Auto Record Mode: Perform Recording (20 Sec.)-->Stop-->Rewind automatically.
5	Head Switching Point Adjustment Mode: See Adjustment Instructions Page 1-7-3.
6	Static Convergence Adjustment Mode: Shows 1 dot color on the center of the screen. Press CH UP/DOWN Key to change the color White and Magenta.
7	Purity Check Mode: Shows Red, Green or Blue on the screen when the CH UP/DOWN Keys are pressed.

Caution: 2

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW215 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

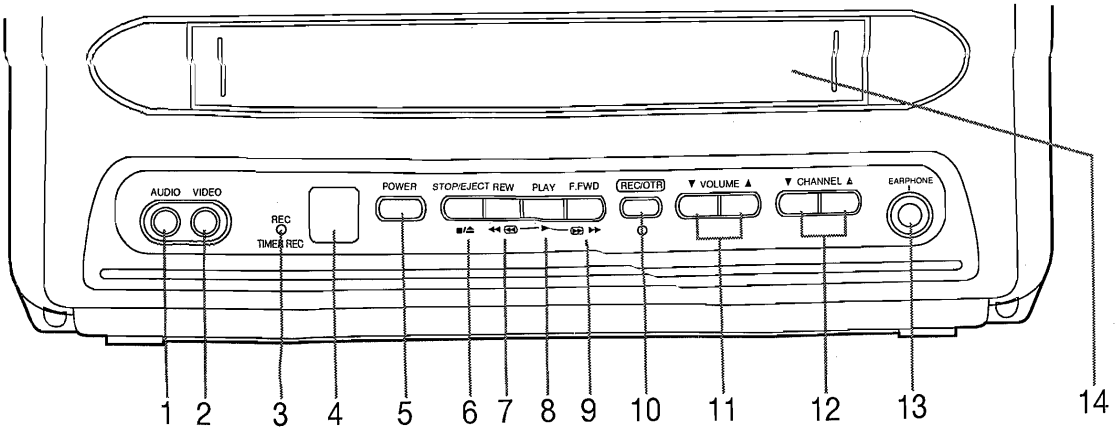
Preparing: 2

1. To eject the tape, press the STOP/EJECT Button on the unit (or Remote control).
2. When you want to record during the Service mode, press the Rec Button while depressing the SW215 (REC-SAFETY SW) on the Main CBA.

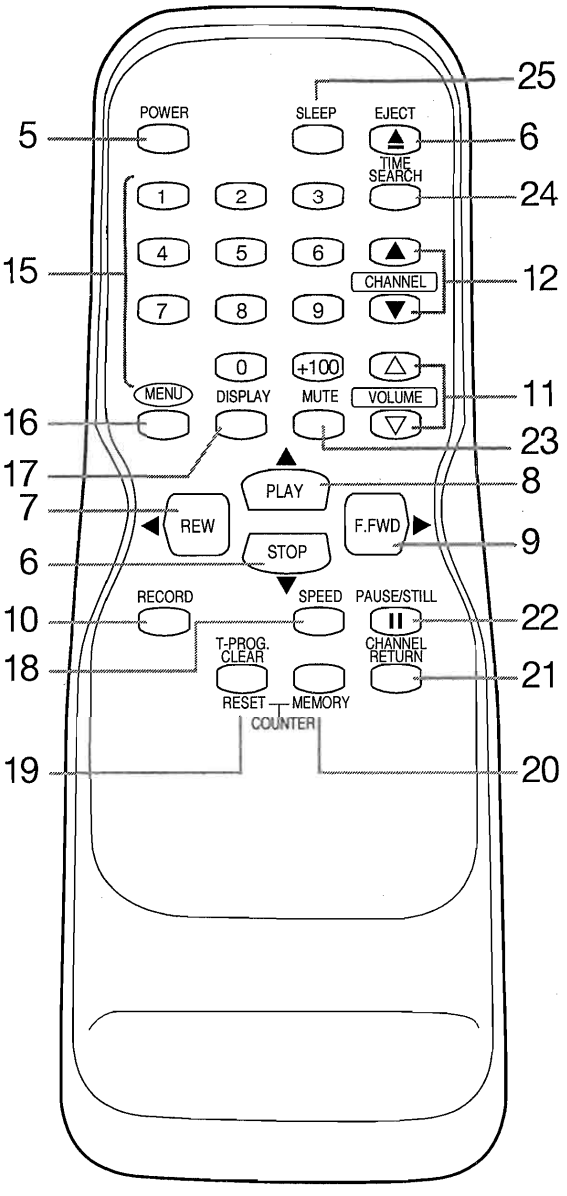


OPERATING CONTROLS AND FUNCTIONS

- FRONT VIEW -



- REMOTE CONTROL VIEW -



1. **AUDIO input jack**– Connect to audio output jack of your audio equipment or another VCR.
2. **VIDEO input jack**– Connect to video output jack of your video camera or another VCR.
3. **REC indicator**– Flashes during recording.

   TIMER REC indicator–Lights up in the Stand-by mode for Timer Recording.
4. **Remote Sensor**– Receives the infrared control signals from the handheld remote control unit.
5. **POWER button**– Press to turn TV/VCR on and off. Press to activate the automatic timer recording.
6. **STOP button** –Press to stop the tape motion.

   EJECT button– Press in the Stop mode to remove a tape from the TV/VCR.

   ▼ button–Press to select setting modes from on screen menu.

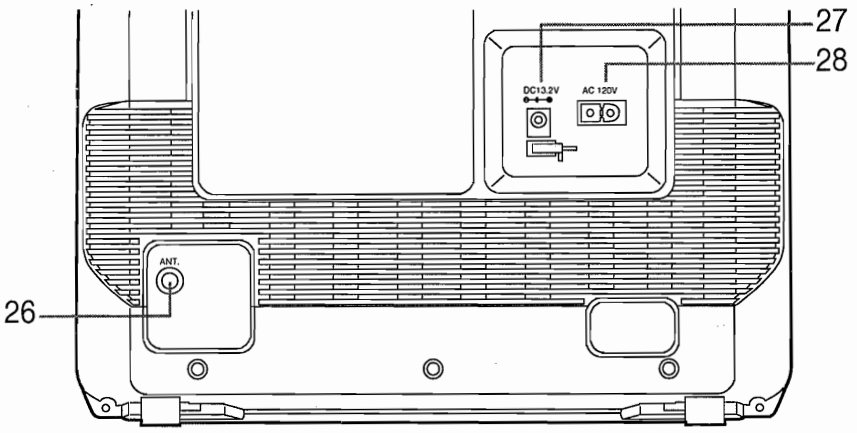
   Press to enter digits when setting program (for example: setting clock or timer program).
7. **REW button**– Press to rewind the tape, or to view the picture rapidly in reverse during the Play mode. (Rewind Search)

   ◄ button–Press to select a mode from a particular menu (for example: LANGUAGE or USER'S SET UP)
8. **PLAY button**– Press to begin playback of a tape.

   ▲ button–Press to select setting modes from on screen menu. Press to enter digits when setting program (for example: setting clock or timer program).
9. **F.FWD button**– Press to rapidly advance the tape, or to view the picture rapidly in forward during the Play mode. (Forward Search)

   ► button–When setting program (for example: setting clock or timer program), press to determine your selection and proceed to a next step you want to input.

- REAR VIEW -



Press to determine setting modes from on screen menu.Press to select a mode from a particular menu (for example: LANGUAGE or USER'S SET UP)

10. **REC button**– Press to begin manual recording.

    OTR button– Press to activate One Touch Recording. (used on the TV/VCR only)

11. **VOLUME ▲/▼ buttons**– Press to adjust the volume level.

12. **CHANNEL ▲/▼ buttons**– Press to select the channel for viewing or recording.

    TRACKING +/- function– Press to minimize video 'noise' (lines or dots on screen) during the Play mode.

13. **EARPHONE jack**– Connect to earphone (not supplied) for personal listening. The size of jack is 1/8" monaural (3.5mm).

14. **Cassette compartment**

15. **Number buttons**– Press to select desired channels for viewing or recording. To select channels 1 to 9, first press the 0 button and then 1 to 9.

    +100 button– Press to select cable channels which are equal or greater than number 100. (To select channel 125, first press "+100" button then press "2" and "5").

16. **MENU button**– Press to display main menu on the TV screen.

17. **DISPLAY button**– Press to display the counter or the current channel number and current time on the TV screen.

18. **SPEED button**– Press to set desired recording speed. (SP/LP/SLP)

19. **T-PROG. CLEAR button**–Press to cancel a programming of timer recoding.

    COUNTER RESET button– Press to reset counter to 0:00:00.

20. **COUNTER MEMORY button**– Press to set counter memory on and off.

21. **CHANNEL RETURN button**–Press to go back to the previously viewed channel. For example, pressing this button once will change channel display from 3 (present channel) to 10 (previously viewed channel), and pressing it a second time will return from 10 to 3.

22. **PAUSE/STILL button**– Press to temporarily stop the tape during the recording or to view a still picture during playback.

23. **MUTE button**– Press to mute sound. Press it again to resume sound.

24. **TIME SEARCH button**– Press to activate Time Search mode.

25. **SLEEP button**– Press to set the Sleep Timer.

26. **ANT. terminal**– Connect to an antenna or CATV.

27. **DC 13.2V jack**– Connect to the Car Battery Cord.

28. **AC 120V jack**– Connect to the AC cord.

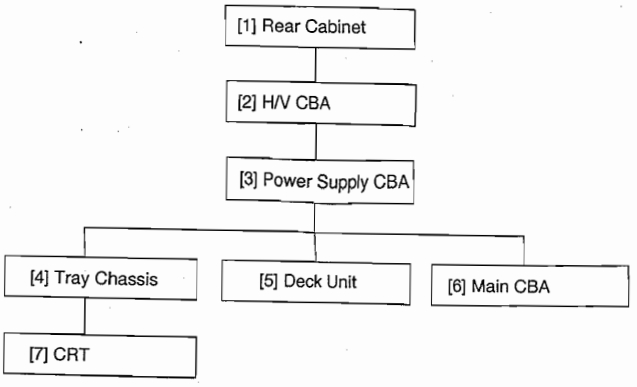
DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

STEP/ LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	4(S-1), 1(S-2), 2(S-3)	1
[2]	H/V CBA	3, 5	Anode Cap, CRT CBA, CN501,CN301,CN571, CN575,CN651A, Unclamp H/V CBA	2
[3]	Power SupplyCBA	3, 5	CN691, CN604, 3(S-4), 2(L-1)	3
[4]	Tray Chassis	3, 5	CN802	4
[5]	Deck Unit	3, 5	4(S-5),3(S-6)	5
[6]	Main CBA	3,5	3(S-7)	6
[7]	CRT	4	4(S-8)	7
		↓ ③	↓ ④	↓ ⑤

① ② ③ ④ ⑤

Note :

①. *Order of steps in Procedure. When reassembling,* follow the steps in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.

②. Parts to be removed or installed.

③. Fig. No. showing Procedure of Part Location

④. Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

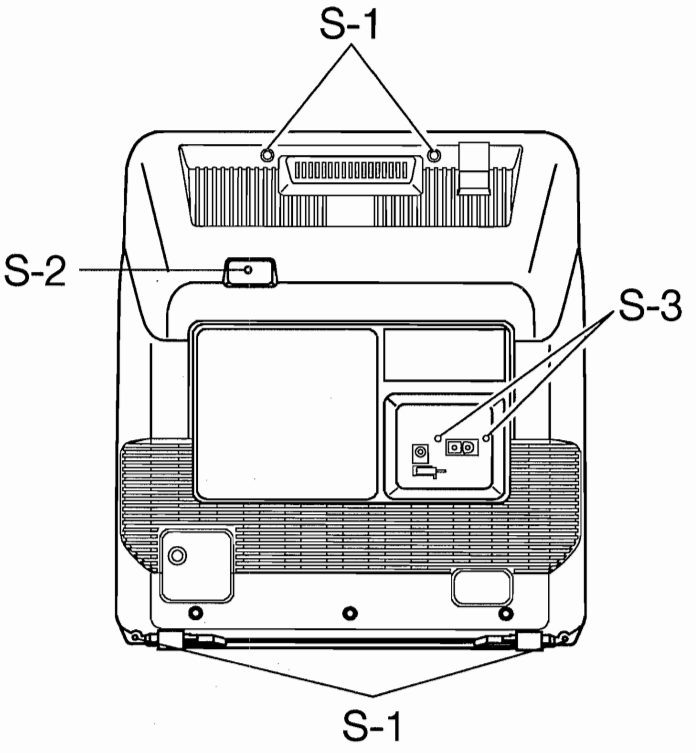
2(S-2) = two Screw (S-2)

⑤. Refer to the following"Reference Notes in the Table" following.

Reference Notes in the Table

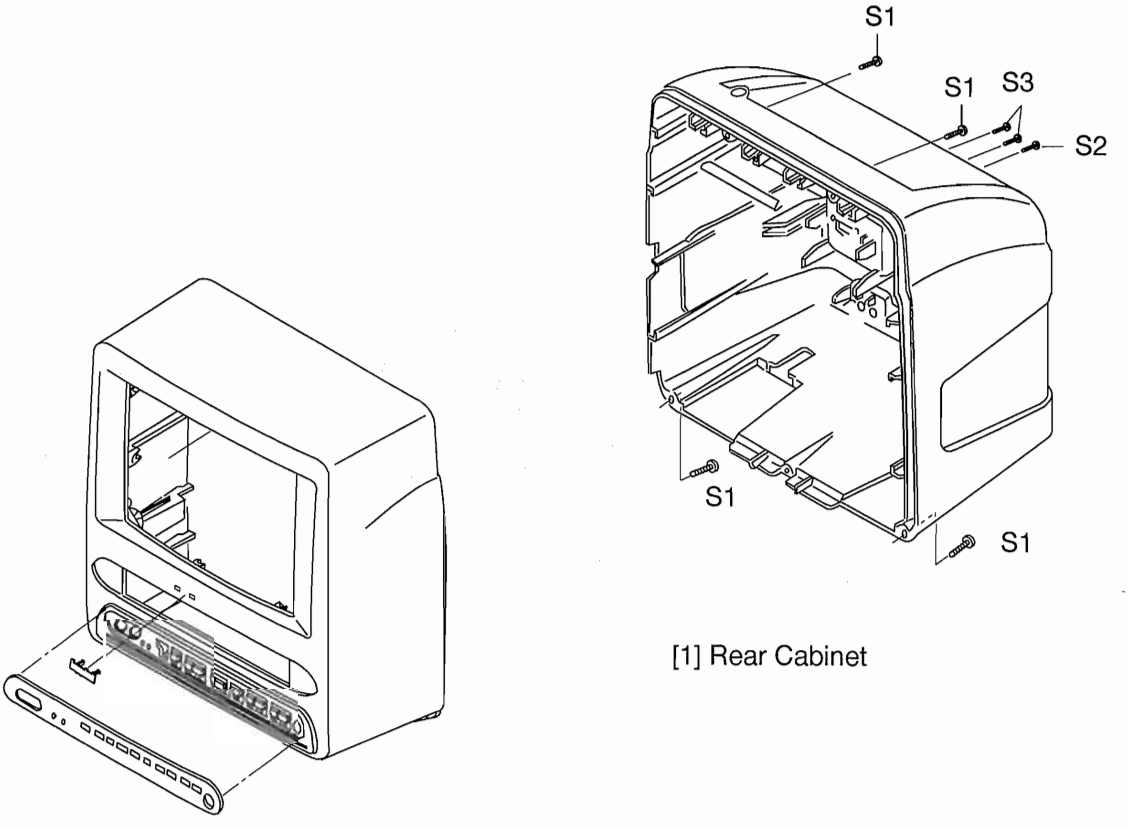
1. Removal of the Rear Cabinet. Remove screws 4(S-1), 1(S-2) and 2(S-3).
2. Removal of the H/V CBA. Disconnect the Anode Lead of the CRT with the CRT ground before removing the Anode Cap.

   Disconnect the following: anode Cap, CRT CBA, CN501, CN301, CN571, CN575, CN651A snd unclamp the H/V CBA.
3. Removal of the Power Supply CBA. Disconnect CN691 and CN604. Slide Power Supply CBA backward. Remove screw 3(S-4). Release 2(L-1).
4. Removal of the Tray chassis. disconnect CN802. slide Tray chassis backward.
5. Removal of the Deck Unit. Remove screws 4(S-5) and 3(S-6). Lift up the Deck Unit.
6. Removal of the Main CBA. Remove screws 3(S-7).
7. Removal of the CRT. Remove screws 4(S-8) and Pull the CRT backward.



[1] Rear Cabinet

Fig. 1



[1] Rear Cabinet

Fig. 2

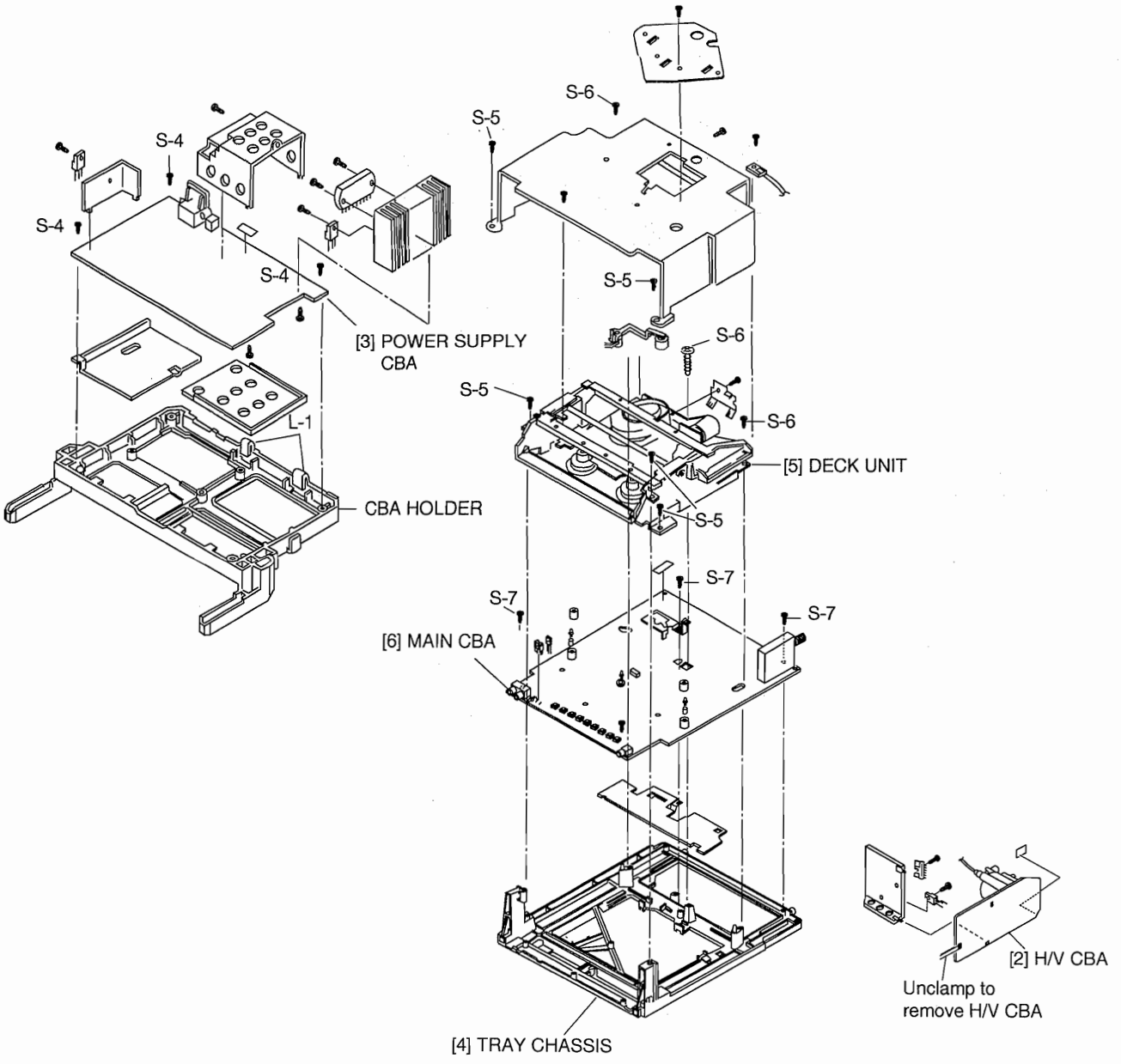

S-6
S-5
S-4
S-4
S-4
S-5
S-6
[3] POWER SUPPLY CBA
S-5
S-6
L-1
[5] DECK UNIT
CBA HOLDER
S-5
S-7
S-7
S-7
[6] MAIN CBA
[2] H/V CBA
Unclamp to remove H/V CBA
[4] TRAY CHASSIS

Fig. 3

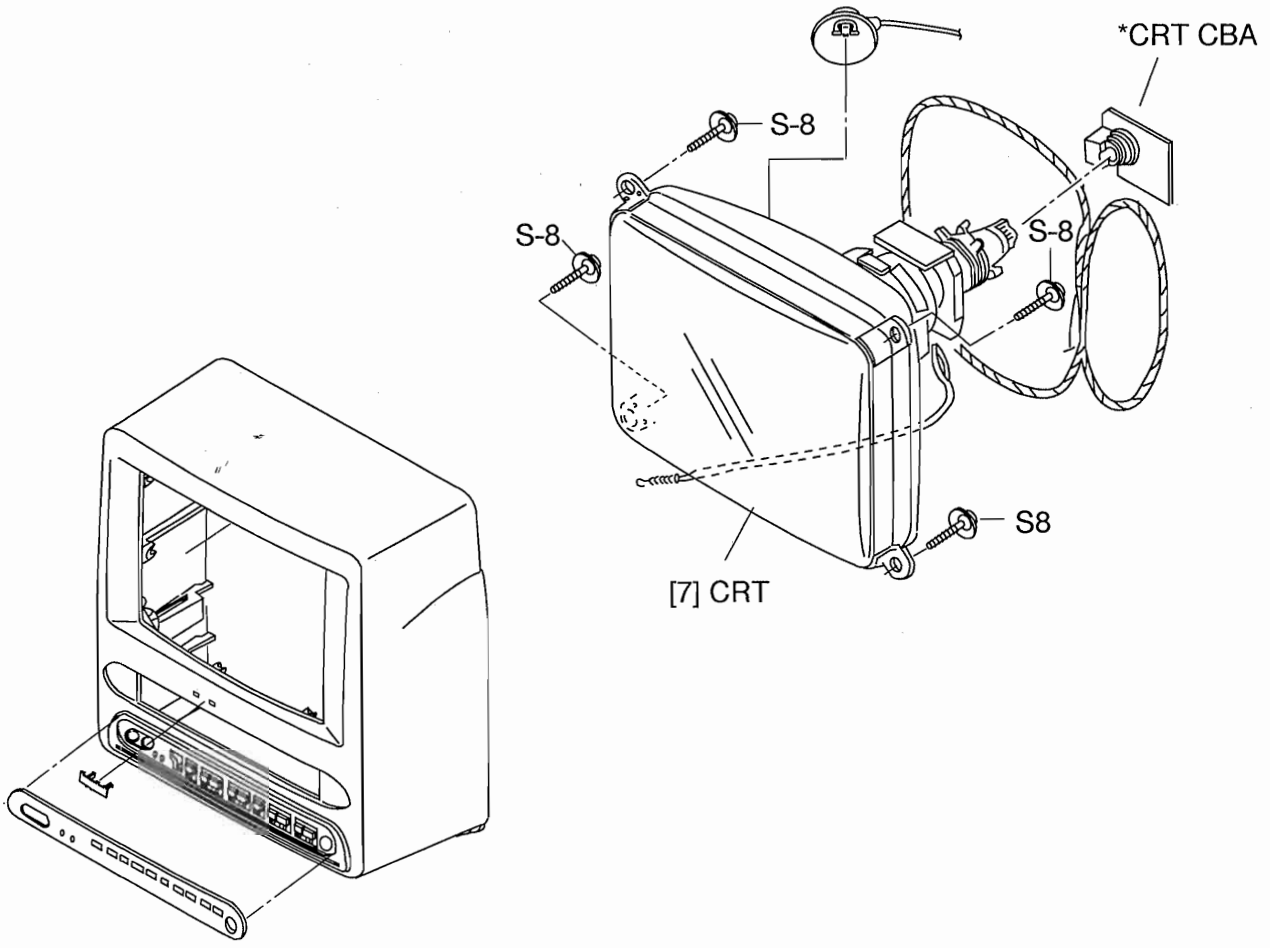


Fig. 4

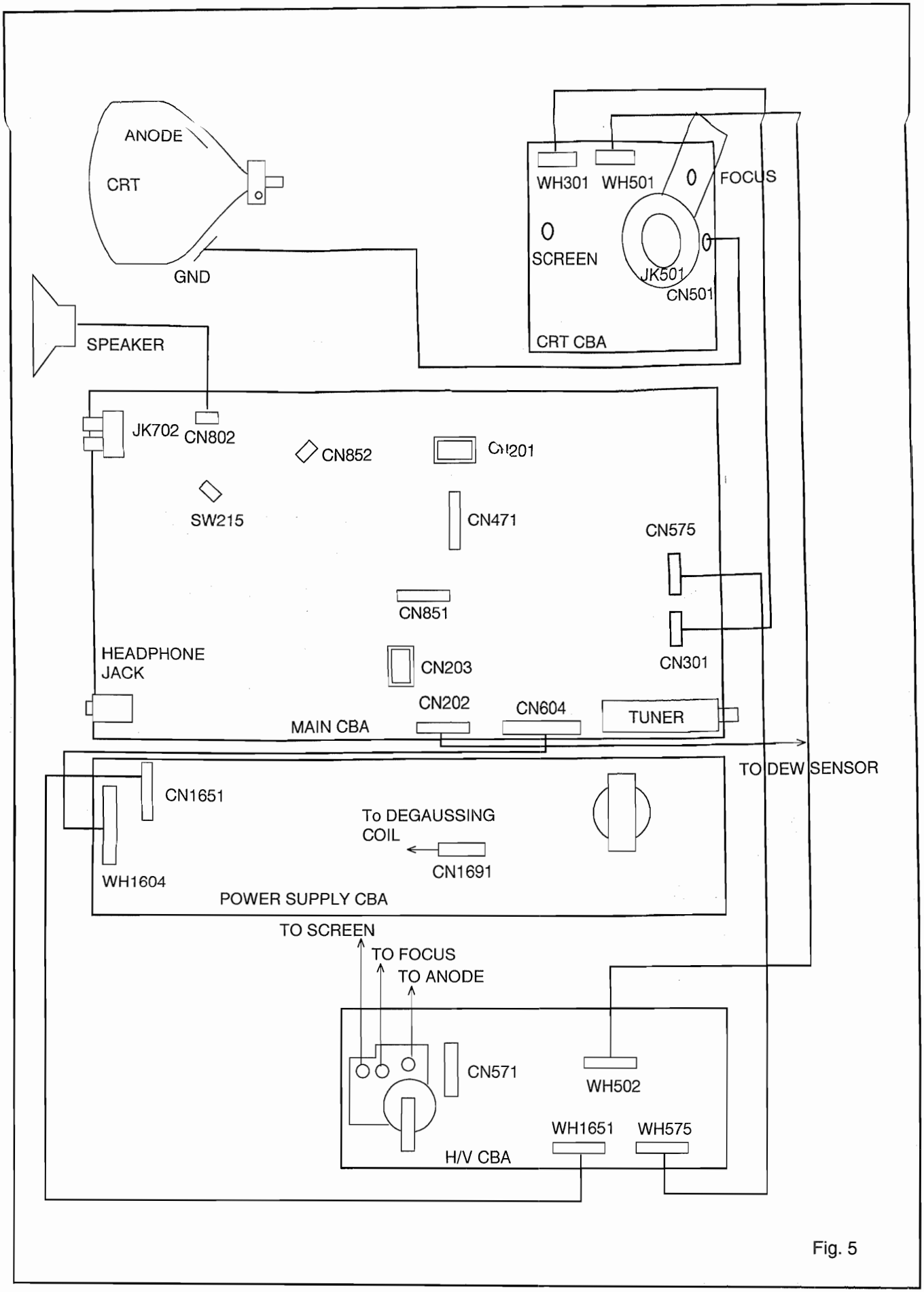

ANODE
CRT
GND
SPEAKER
WH301
WH501
FOCUS
SCREEN
JK501
CN501
CRT CBA
JK702
CN802
CN852
CN201
SW215
CN471
CN575
CN851
CN301
HEADPHONE JACK
CN203
CN202
CN604
TUNER
MAIN CBA
TO DEW SENSOR
CN1651
To DEGAUSSING COIL
CN1691
WH1604
POWER SUPPLY CBA
TO SCREEN
TO FOCUS
TO ANODE
CN571
WH502
WH1651
WH575
H/V CBA

Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:
"CBA" is abbreviation for " Circuit Board Assembly".

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

It is important to perform these adjustments only after all repairs and replacements have been completed.

Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div,
   F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver
8. DC Power Supply

1a. DC117V Adjustment (AC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Mode	Input
J660 (+117V) J657 (GND)	VR1661	---	120V 60Hz
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC.	

Note: J660, J657(GND), VR1661
--- Power Supply CBA

1. Connect DC Volt Meter toJ660 and J657(GND).
2. Adjust VR1601 so that the voltage of J660 becomes +117±0.5V DC.

1b. DC117V Adjustment(DC Power)

Test Point	Adjustment Point	Mode	Input
J660 (+117V) J657 (GND)	VR911	---	13.2V DC
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC.	

Note: J660, J657(GND), VR911
--- Power Supply CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter toJ660 and J657(GND).
3. Adjust VR911 so that the voltage of J660 becomes +117±0.5V DC.

1c. DC12V Adjustment(DC Power)

Test Point	Adjustment Point	Mode	Input
J648 (+12V) J645 (GND)	VR921	---	13.2V DC
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+12±0.2V DC.	

Note: J648, J654(GND), VR921
--- Power Supply CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter toJ648 and J645(GND).
3. Adjust VR921 so that the voltage of J648 becomes +12±0.2V DC.

2. AFT Adjustment

Purpose: To operate AFT correctly.

Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.

Test Point	Adjustment Point	Mode	Input
J191 (AFT) J245 (GND)	T301 (VCO)	---	See Direction
Tape	M. EQ.	Spec.	
---	Oscilloscope or DC Volt Meter	+4.5±0.1V DC	

Figure

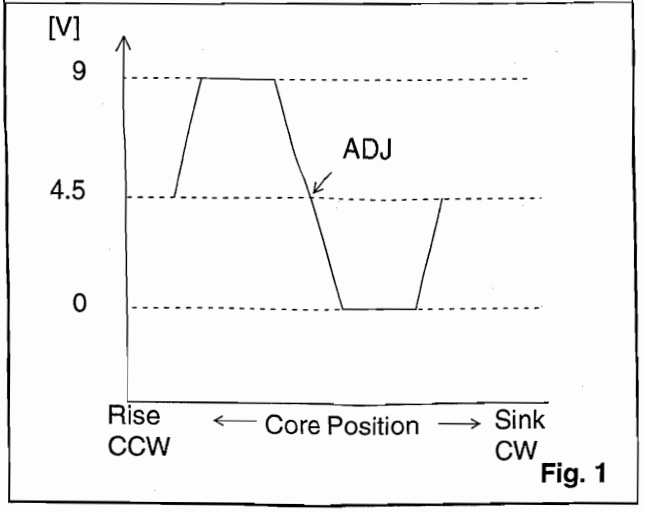


Fig. 1

Note: J191, J245(GND), T301 --- Main CBA

1. Disconnect the RF input and Set the unit to Channel 4.
2. Reconnect the RF input. Input Color Bar signal.
3. Turn the core of T301 fully counterclockwise.
4. Turn the core of T301 clockwise and find the point where the voltage drops from approximately 9V to 0V immediately on the oscilloscope. (J191)
5. Turn the core of T301 little by little and find the point where +4.5±0.1V DC is obtained between the area mentioned in step 4.

3. AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.

Symptom of Misadjustment: AGC does not synchronize correctly when RF input level is too weak and picture distortion may occur if it is too strong.

Test Point	Adjustment Point	Mode	Input
J219 (AGC) J245 (GND)	CH. Up/Down Button (Remote Control Unit)	---	Color Bar 67.25MHz 80dBμV
Tape	M. EQ.	Spec.	
---	Pattern Generator DC Volt Meter	+3.2(or 2.9)±0.1VDC By Tuner Type	

Note: J219, J245 --- Main CBA

Use the Remote Control Unit

1. Enter the Service mode. (See Page 1-4-2) Then press number 2 button on the remote control unit.
2. Receive the Color Bar signal for channel 4 (67.25MHz). (RF Input Level: 80dBμV)
3. Press CH. Up/Down button so that the voltage of J219 becomes +3.2±0.1V DC. (ALPS Tuner is used). If a SANYO Tuner is used, Voltage should be +2.9±0.1V DC.
4. Turn the Power off and on again

4. H. Shift Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	VR302	play	Monoscope
Tape	M. EQ.	Spec.	
F8-M or G	Monochrome	See below	

Note: VR302 --- Main CBA

1. Operate the unit for at least 20 minutes.
2. Input Monochrome Pattern.
3. Adjust VR302 so that the left and right side of the monochrome pattern will be equal of each other.

Note: If you don't have a Monoscope, play test tape. (F6-M or F8-G)

5. V. Size Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	VR551 (V. Size)	Play	Monoscope
Tape	M. EQ.	Spec.	
---	Monochrome	90±5%	

Note: VR551--- H/V CBA

1. Operate the unit for at least 20 minutes.
2. Input the Monochrome Pattern.
3. Adjust VR551 so that the monochrome pattern will be 90±5% of display size and the circle is round.

Note: If you don't have Monoscope, play test tape (F8-G or F8-M)

6. V. Shift Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of misadjustment: If V. size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	VR561 (V-POS)	---	Monoscope
Tape	M. EQ.	Spec.	
---	Monochrome	See below	

Note: VR561 --- H/V CBA

1. Operate the unit for at least 20 minutes.
2. Input Monochrome Pattern.
3. Adjust VR561 so that the top and bottom of the monochrome pattern will be equal of each other.

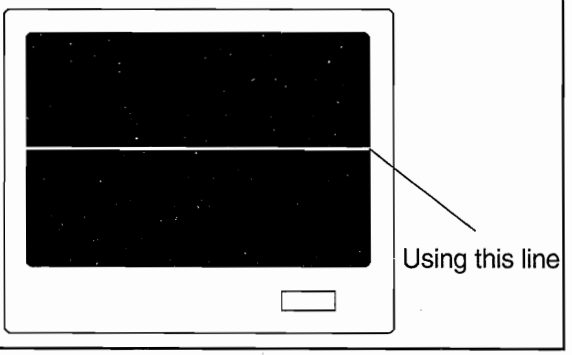
7. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adjustment Point	Mode	Input
---	VR506 (R-Drive) VR501 (R-Cutoff) VR502 (G-Cutoff) VR508 (B-Drive) VR503 (B-Cutoff) Screen-Control	---	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure



Note: VR501, VR502, VR503, VR506, VR508 --- CRT CBA

Screen Control --- H/V CBA

F.B.T= Fly Back Transformer

Use the Remote Control unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the White Raster signal (APL 100%).
3. Turn the Screen-Control fully counterclockwise. (Located on the F.B.T)
4. Set the VR501 (R-Cutoff), VR502 (G-Cutoff) and VR503 (B-Cutoff) to 10 o'clock position.
5. Set the VR508 (B-Drive) and VR506 (R-Drive) to their center positions.
6. Enter the Service Mode. (See page 1-4-2) Then press the number 1 button on the Remote control unit.
7. Gradually turn the Screen Control (Clock Wise) until a horizontal line, of any color dimly appears.
8. Turn the color Cutoff controls up to achieve white dim line.
9. Power off and power on again.

8. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adjustment Point	Mode	Input
J506 J505 (GND)	CH UP/DOWN Button	---	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	+4.4±0.05V DC	

Figure

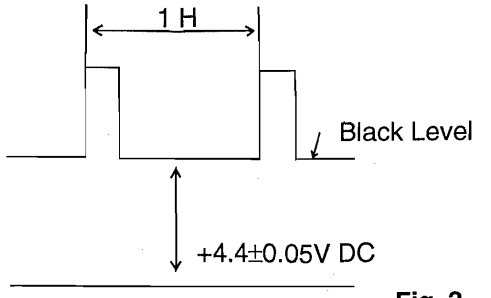


Fig. 3

Note: J506, J505 (GND) --- CRT CBA
Use Remote Control Unit

1. Enter the Service Mode. (See page 1-4-2)
   Then press the number 0 button on the Remote Control Unit.
2. Press CH UP/DOWN button on the Remote Control Unit so that the voltage of J506 becomes +4.4±0.05V DC.

9. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adjustment Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR (FBT) --- H/V CBA
FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Degauss the CRT using Degaussing Coil and Face the unit to the East.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

10. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Play back.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and display it on the screen.

1. Enter the Service Mode. (See page 1-4-2)
   Play back test tape (FL8A)so that the value of Head Switching Position is displayed on the screen.If the test tape has 6.5H(412.7μs) Head Switching Point same number will display on the screen.
2. Press the number 5 button on the Remote Control Unit.
3. If the Adjustment is necessary, Follow Step 4.
4. Press CH UP or DOWN button on the Remote Control Unit if necessary then Value will be changed in 0.5H step up or down. Adjustable Range is up to 9.5H. If the values beyond adjustable range, display will change as:
   Lower out of range; 0.0H
   Upper out of range; -.-H

11. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).

Symptom of Misadjustment: Audio may not sound correctly.

Test Point	Adjustment Point	Mode	Input
J196 J245 (GND)	T302	---	Color Bar
Tape	M. EQ.	Spec.	
---	Pattern Generator Digital Volt Meter	See below.	

Note: J196, T302, J245 --- Main CBA

1. Receive Color Bar signal at any channel.
2. Connect Digital Volt Meter to J196.
3. Adjust T302 so that the voltage of TP SIF becomes DC +3.1±0.1V.\

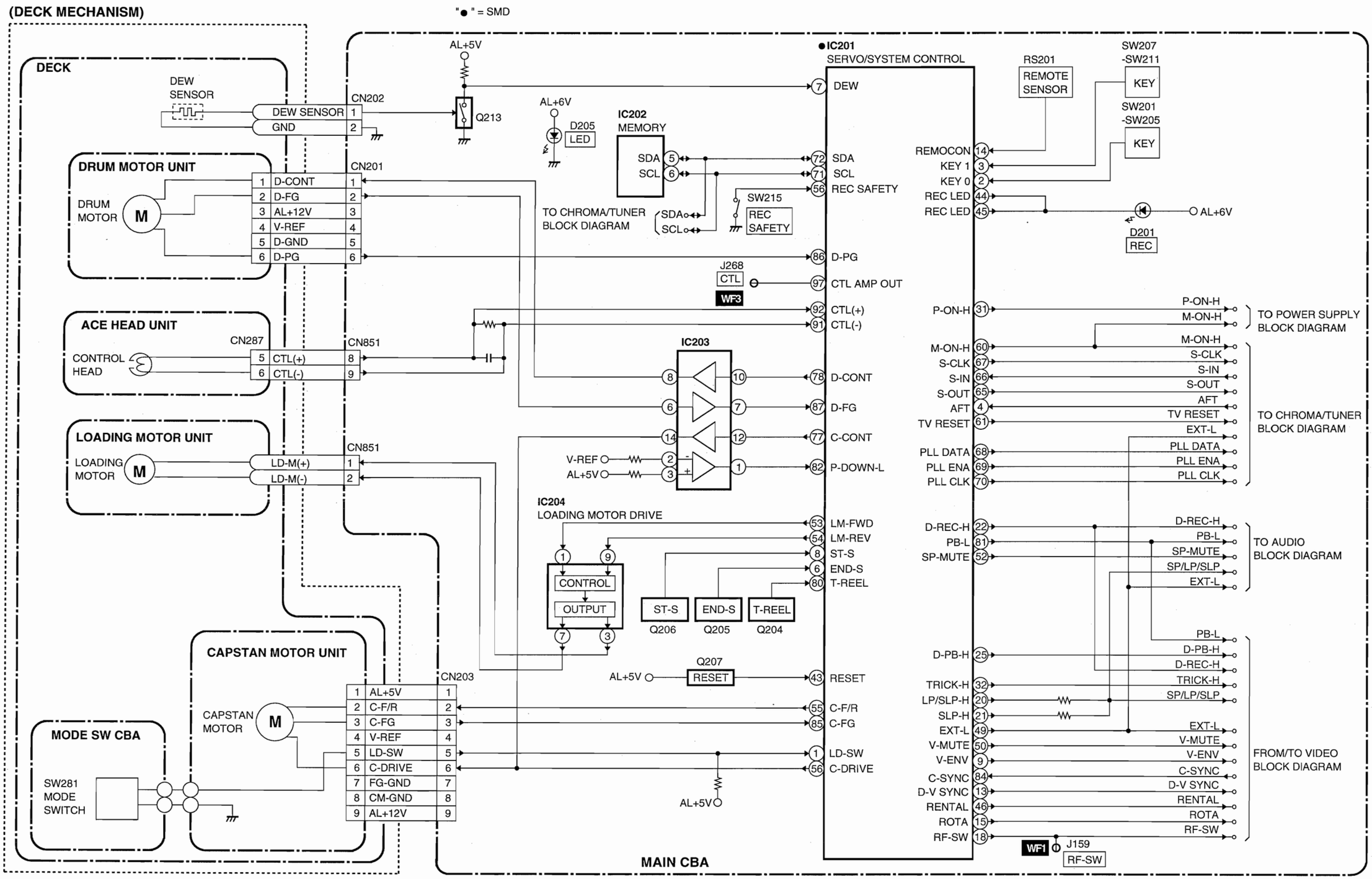
12. CCS Text Box Location

This Adjustment normally is not attempted in the field.

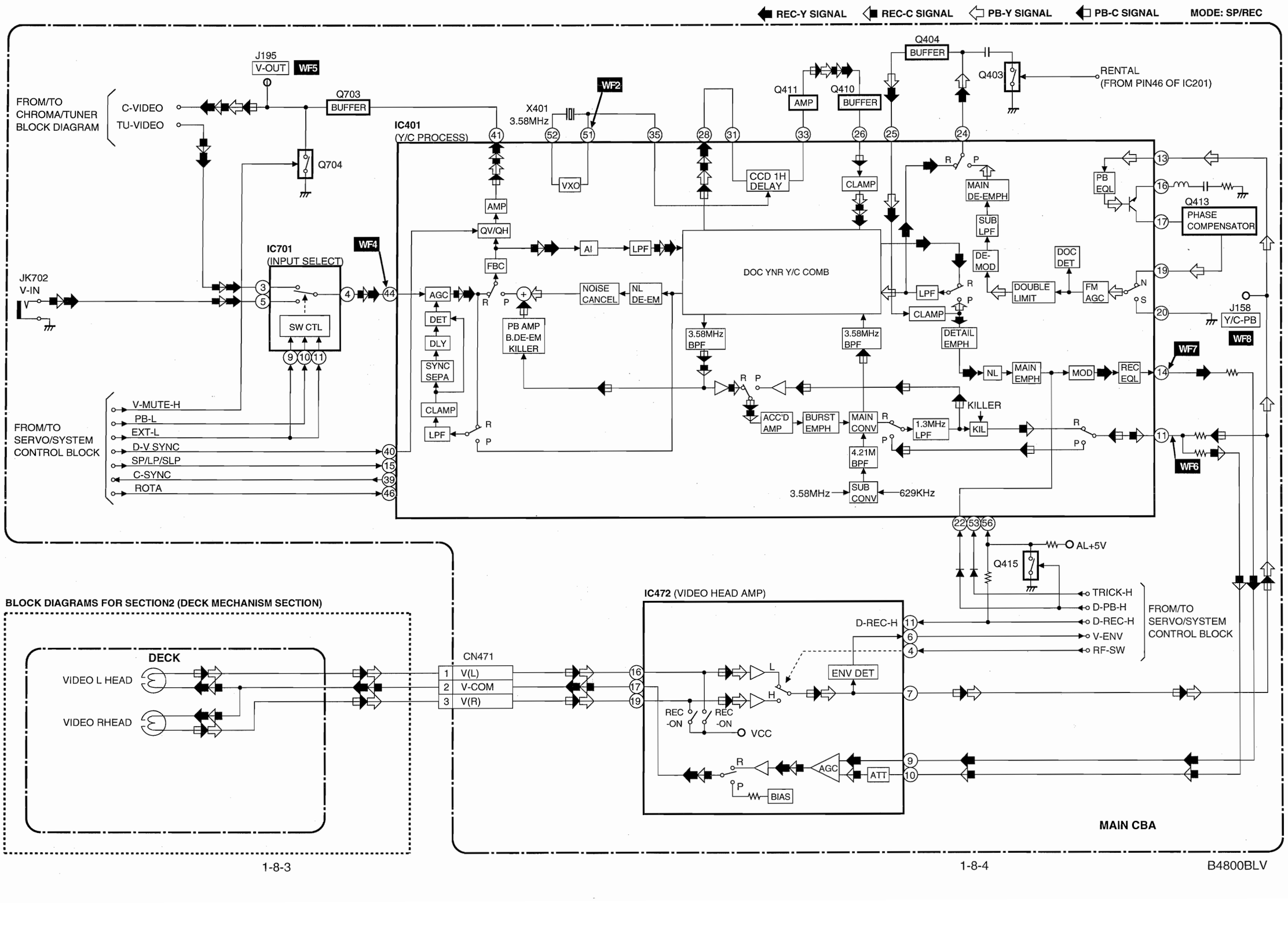
When replacing the CRT, the CCS Box does not stay in appropriate position. Then, do the following procedure.

Note: VR101 --- Main CBA

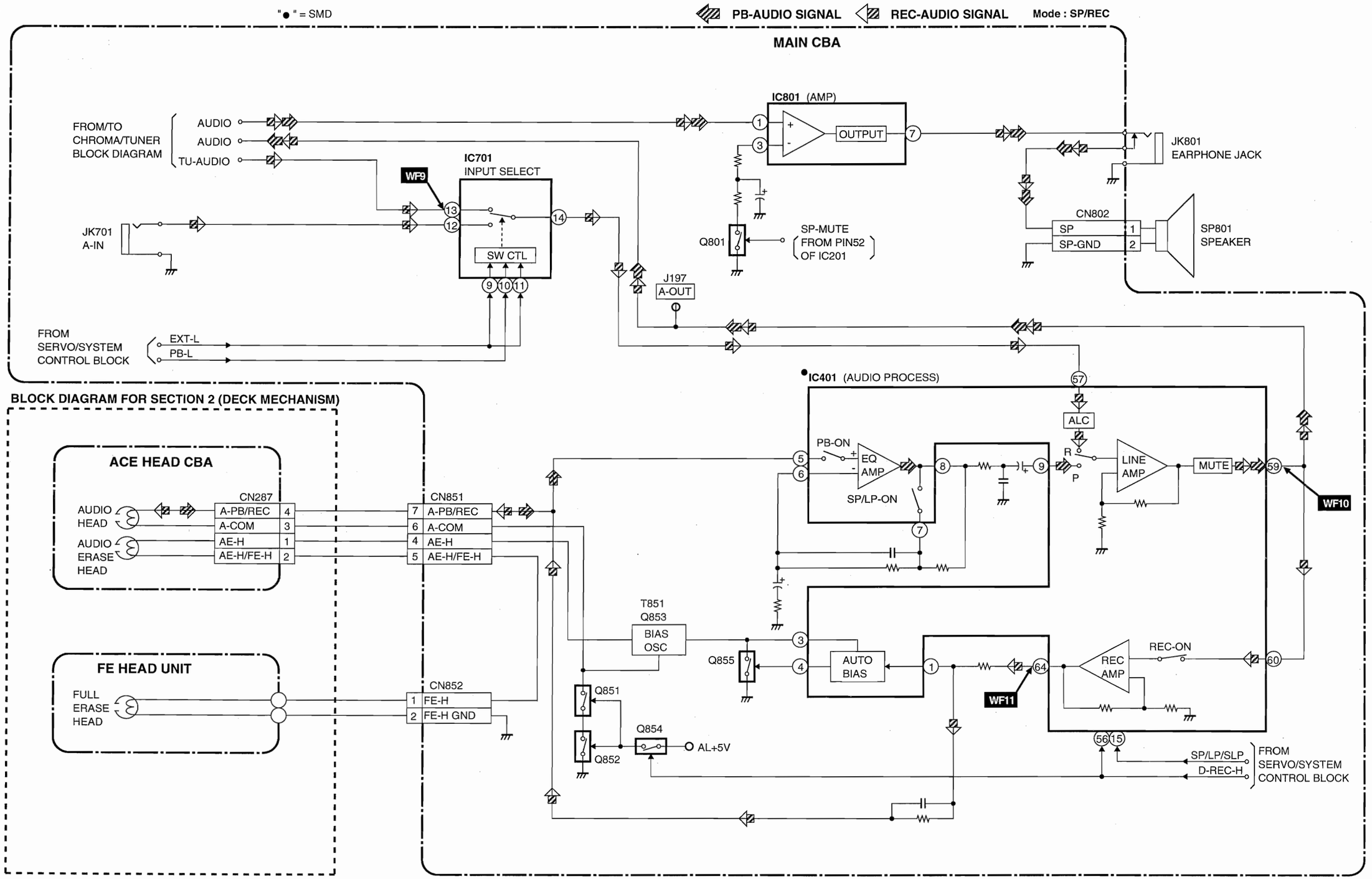
1. Set unit into Initial mode. (Disconnect the Power once and Power On again.)
2. Receive CCS Broadcast or Playback CCS programmed tape.
3. Adjust VR101 so that the Text Box will stay in the center of the CRT.


(DECK MECHANISM)
"● " = SMD
DECK
DEW SENSOR
DEW SENSOR
GND
CN202
DRUM MOTOR UNIT
DRUM MOTOR
M
CN201
1 D-CONT 1
2 D-FG 2
3 AL+12V 3
4 V-REF 4
5 D-GND 5
6 D-PG 6
ACE HEAD UNIT
CONTROL HEAD
CN287
CN851
5 CTL(+) 8
6 CTL(-) 9
LOADING MOTOR UNIT
LOADING MOTOR
M
CN851
LD-M(+) 1
LD-M(-) 2
CAPSTAN MOTOR UNIT
CAPSTAN MOTOR
M
CN203
1 AL+5V 1
2 C-F/R 2
3 C-FG 3
4 V-REF 4
5 LD-SW 5
6 C-DRIVE 6
7 FG-GND 7
8 CM-GND 8
9 AL+12V 9
MODE SW CBA
SW281
MODE
SWITCH
AL+5V
Q213
AL+6V
D205
LED
IC202
MEMORY
SDA 5
SCL 6
TO CHROMA/TUNER BLOCK DIAGRAM
SDA
SCL
SW215
REC SAFETY
J268
CTL
WF3
IC203
8 10 D-CONT
6 7 D-FG
14 12 C-CONT
V-REF 2
AL+5V 3
1 P-DOWN-L
IC204
LOADING MOTOR DRIVE
1 9
CONTROL
OUTPUT
7 3
ST-S
END-S
T-REEL
Q206
Q205
Q204
Q207
AL+5V
RESET
●IC201
SERVO/SYSTEM CONTROL
7 DEW
72 SDA
71 SCL
56 REC SAFETY
86 D-PG
97 CTL AMP OUT
92 CTL(+)
91 CTL(-)
78 D-CONT
87 D-FG
77 C-CONT
82 P-DOWN-L
53 LM-FWD
54 LM-REV
8 ST-S
6 END-S
80 T-REEL
43 RESET
55 C-F/R
85 C-FG
1 LD-SW
56 C-DRIVE
AL+5V
RS201
REMOTE SENSOR
SW207
-SW211
KEY
SW201
-SW205
KEY
REMOCON 14
KEY 1 3
KEY 0 2
REC LED 44
REC LED 45
AL+6V
D201
REC
P-ON-H 31
M-ON-H 60
S-CLK 67
S-IN 66
S-OUT 65
AFT 4
TV RESET 61
PLL DATA 68
PLL ENA 69
PLL CLK 70
D-REC-H 22
PB-L 81
SP-MUTE 52
D-PB-H 25
TRICK-H 32
LP/SLP-H 20
SLP-H 21
EXT-L 49
V-MUTE 50
V-ENV 9
C-SYNC 84
D-V SYNC 13
RENTAL 46
ROTA 15
RF-SW 18
P-ON-H
M-ON-H
TO POWER SUPPLY BLOCK DIAGRAM
M-ON-H
S-CLK
S-IN
S-OUT
AFT
TV RESET
EXT-L
PLL DATA
PLL ENA
PLL CLK
TO CHROMA/TUNER BLOCK DIAGRAM
D-REC-H
PB-L
SP-MUTE
SP/LP/SLP
EXT-L
TO AUDIO BLOCK DIAGRAM
PB-L
D-PB-H
D-REC-H
TRICK-H
SP/LP/SLP
EXT-L
V-MUTE
V-ENV
C-SYNC
D-V SYNC
RENTAL
ROTA
RF-SW
FROM/TO VIDEO BLOCK DIAGRAM
WF1
J159
RF-SW
MAIN CBA

Video Block Diagram



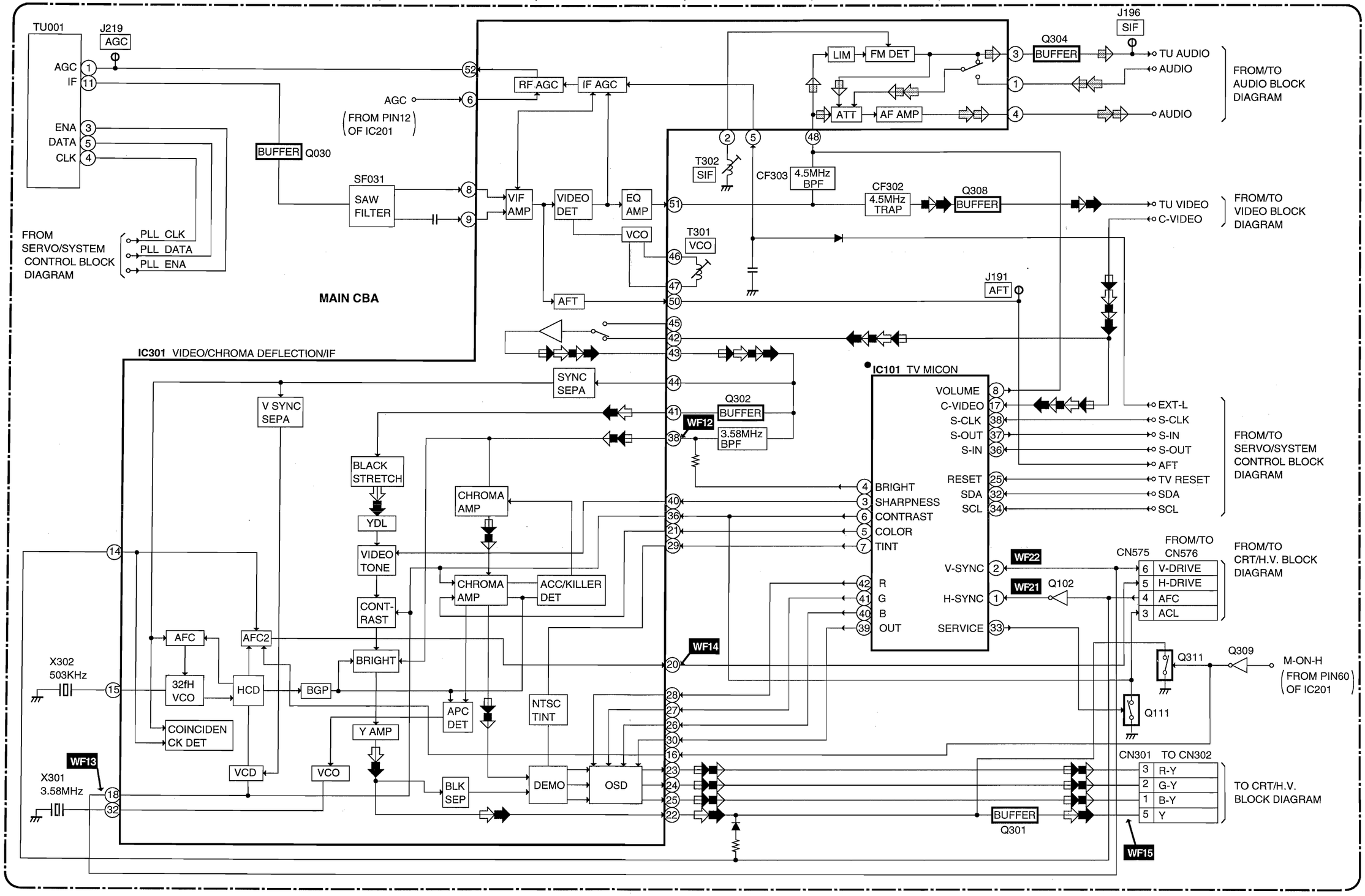
Audio Block Diagram



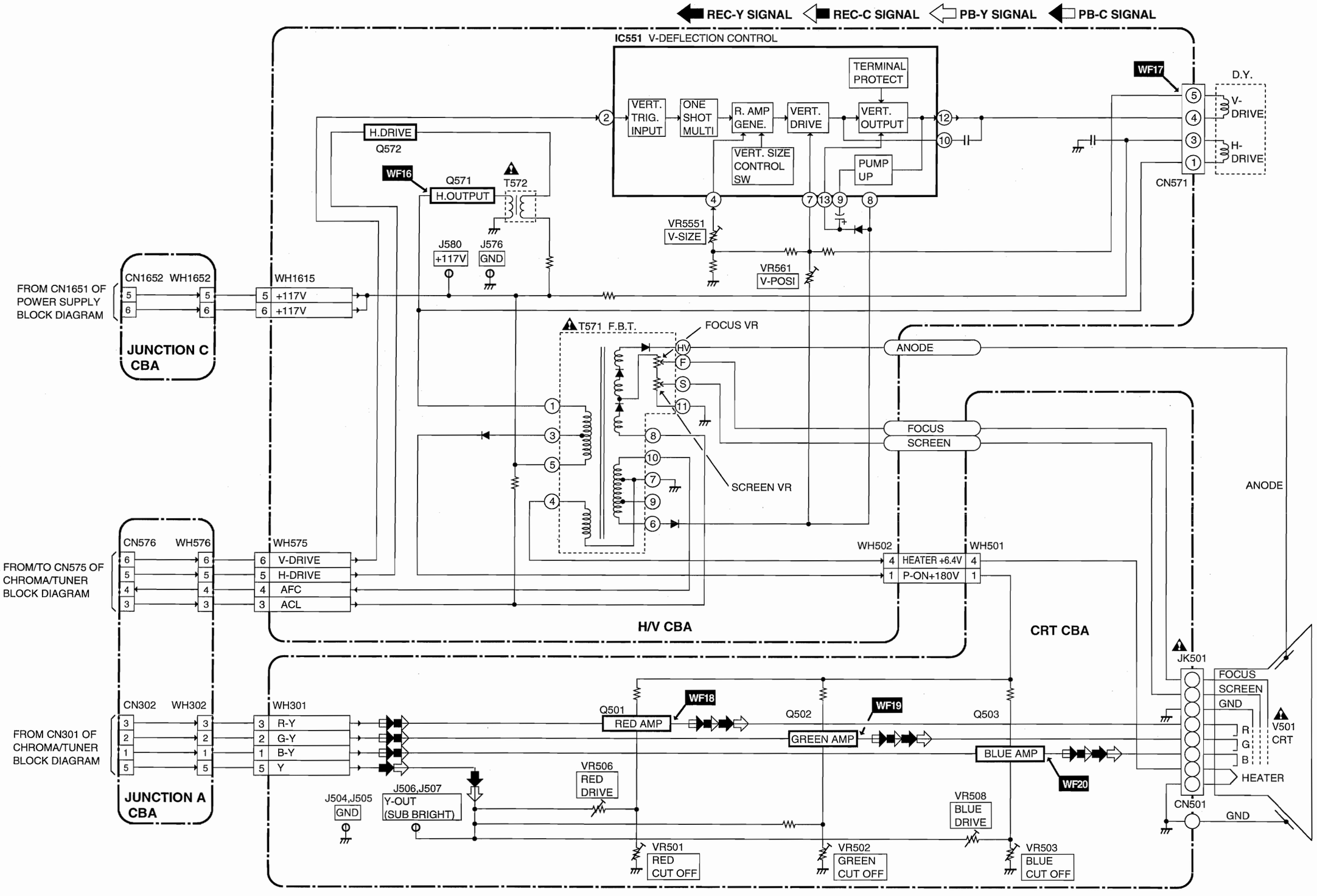
Chroma/Tuner Block Diagram

"● " = SMD

REC-AUDIO SIGNAL | PB-AUDIO SIGNAL | REC-Y SIGNAL | REC-C SIGNAL | PB-Y SIGNAL | PB-C SIGNAL | Mode : SP/REC



CRT/H.V. Block Diagram

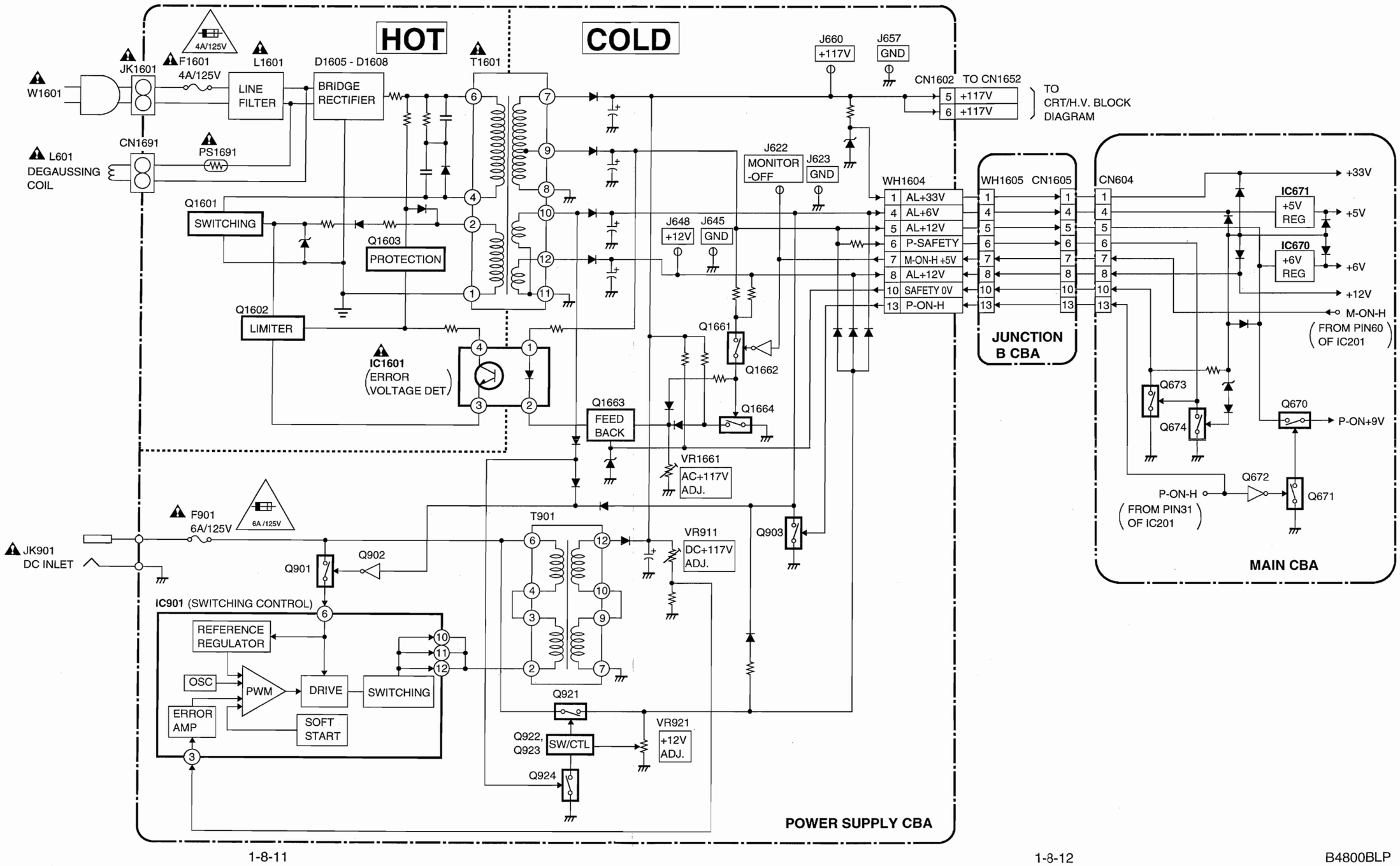


Power Supply Block Diagram

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F601 or F901) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

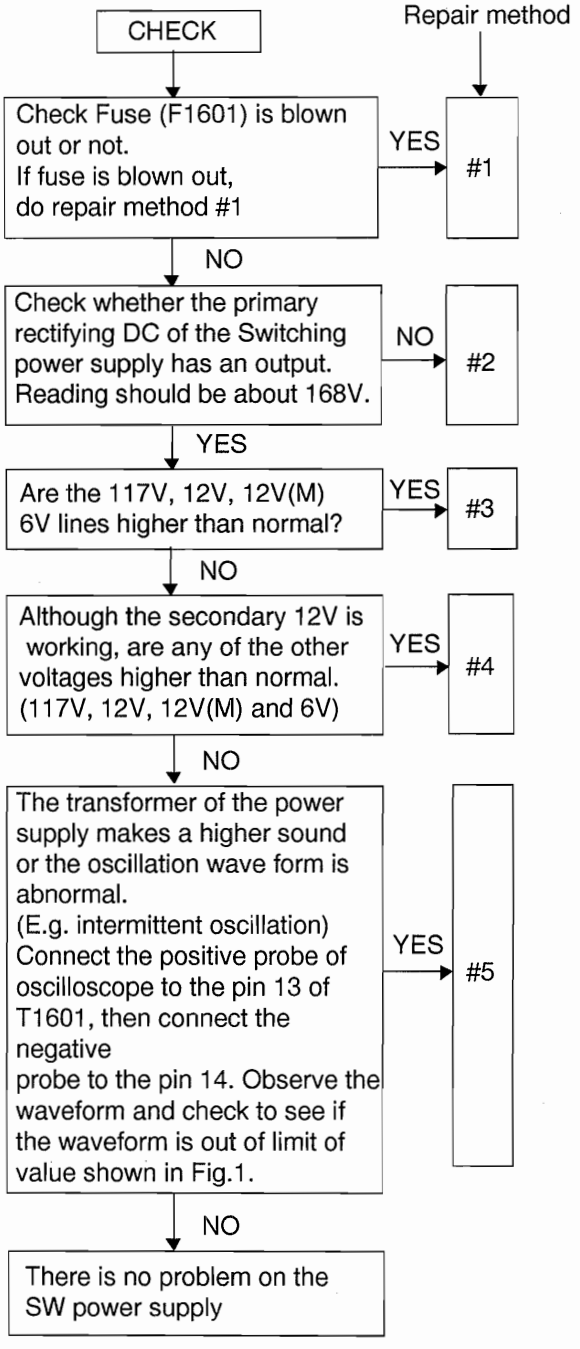
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING HOT GND AS A COMMON TERMINAL.



Power Supply Trouble Shooting Guide

It is highly recommended that a variable isolation transformer which can monitor current be used. (Alternatively a variable AC source which monitors current will do). Read directions below before power is added!


CHECK
Repair method
Check Fuse (F1601) is blown out or not.
If fuse is blown out, do repair method #1
YES
#1
NO
Check whether the primary rectifying DC of the Switching power supply has an output. Reading should be about 168V.
NO
#2
YES
Are the 117V, 12V, 12V(M) 6V lines higher than normal?
YES
#3
NO
Although the secondary 12V is working, are any of the other voltages higher than normal. (117V, 12V, 12V(M) and 6V)
YES
#4
NO
The transformer of the power supply makes a higher sound or the oscillation wave form is abnormal.
(E.g. intermittent oscillation)
Connect the positive probe of oscilloscope to the pin 13 of T1601, then connect the negative
probe to the pin 14. Observe the waveform and check to see if the waveform is out of limit of value shown in Fig.1.
YES
#5
NO
There is no problem on the SW power supply

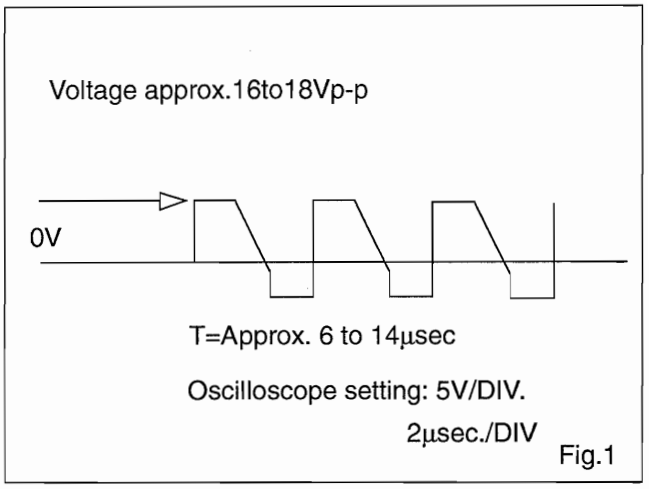


Fig.1

Repair method #1

(Power must be off)

Short circuit in the secondary side. check diode D1651, D1652, D1653 and D1654, switching transistor (Q1601), control transistor (Q1602), diode and resistor replace as necessary.

Disconnect 117V diode (D1651), 12V diode (D1652), 12V diode (D1654), 6V diode (D1653) and Check the load continuity of 117V line, 12V line, 12V(M) line, 6V line and filament voltage line through a tester (resistance range).

If the tester indicates a lower resistance value around 0 ohm, the line is short-circuited.

Before repairing the switching power supply, find out the short-circuited area of such line and repair it.

If the tester does not indicate any low resistance value (around 0 ohm), no load is short-circuited and there is no problem.

2] Check for any defective parts while the secondary rectifying diodes are disconnected (D610, D611, D612, D613) perform a diode check in both forward and reverse directions through a tester.

Repair method #2

Check the primary rectifying diodes (D1605-D1608) as possible problems. Remove the above mentioned parts and check them. Perform check according to the step 1 and 2 of repair method #1 and check for defects following parts, then if necessary replace with factory originals.

R1601 is open or not.

Q1601 and D1617 are short or not.

D1655 is shorted or not.

Repair method #3

The feedback circuit which is monitored by the output of D1652 12V may not work and this may be regarded as a possible cause, remove IC1601 (Photo Coupler), diode (D1666) and transistor (Q1663) check for defects.

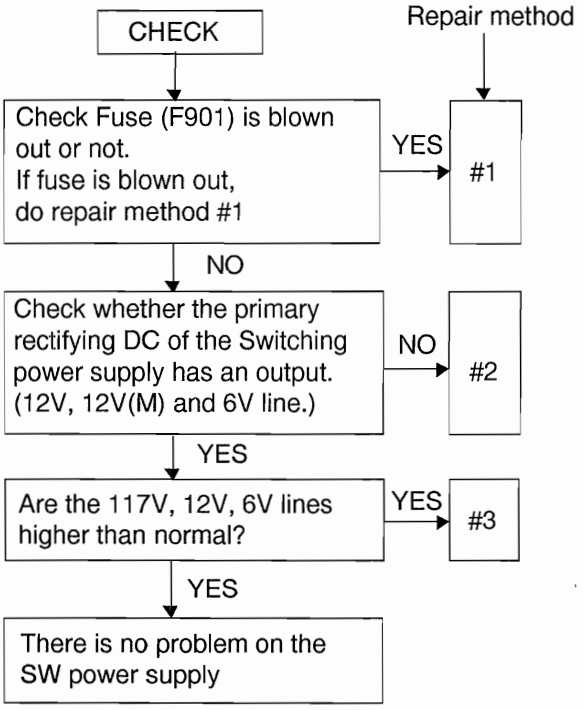
Repair method #4

If the output voltage of the secondary side is slightly high, the line load may be in the "OPEN" state and this may be regarded as a cause of trouble. Check 12 Volt Line of C1658, D1654, D1655, R1658, R1659 and Q1651.

Repair method #5

Check control circuitly which is connecting to Pin 2 and 3 of Switching Transformer T1601.

DC Power Supply Trouble Shooting Guide


CHECK
Repair method
Check Fuse (F901) is blown out or not.
If fuse is blown out, do repair method #1
YES
#1
NO
Check whether the primary rectifying DC of the Switching power supply has an output. (12V, 12V(M) and 6V line.)
NO
#2
YES
Are the 117V, 12V, 6V lines higher than normal?
YES
#3
YES
There is no problem on the SW power supply

Repair method #1

(Power must be off)

Check Short circuit at D903.

Repair method #2

Check the secondary circuit Q921-Q924, D921,D923-D925 and R921.

Repair method #3

Check Voltages at pin 6 of IC901, If there is no voltage, Check Q901-Q903, D905-D906.

Check D911 is open or not.

Check Q911-Q912.

All above point are OK then IC 901may be regarded as cause of trouble.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
5. All voltages are DC voltages unless otherwise specified.

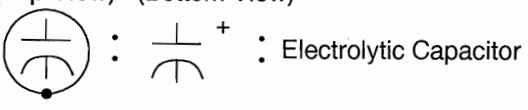
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

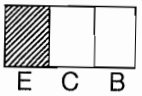
CBA Symbols

(Top View) (Bottom View)



: Electrolytic Capacitor

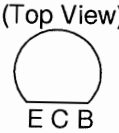
(Bottom View)



E C B

: Transistor or Digital Transistor

(Top View)



E C B

NPN Transistor

(Top View)

E C B

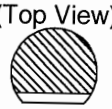
PNP Transistor

(Top View)

E C B

NPN Digital Transistor

(Top View)

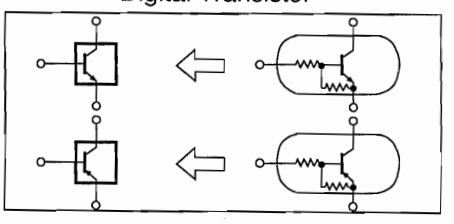


E C B

PNP Digital Transistor

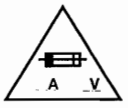
Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

2. **CAUTION:**

Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F01) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

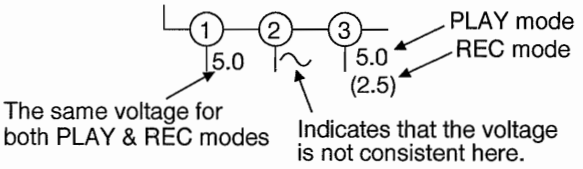
(1) Prefix symbol "CN" means "connector." (Can disconnect and reconnect)

(2) Prefix symbol "CL" means "wire-solder holes of the PCB." (Wire is soldered directly.)

5. Note: Mark "•" is a leadless (chip) component.

6. Mode: SP/REC

7. Voltage indications for PLAY and REC modes on the schematics are as shown below:



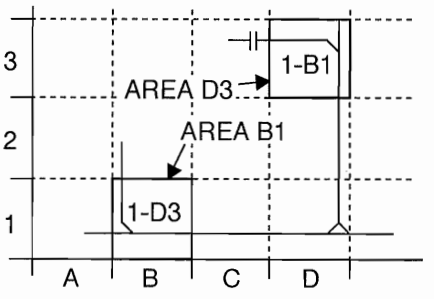
Unit: Volts

8. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:

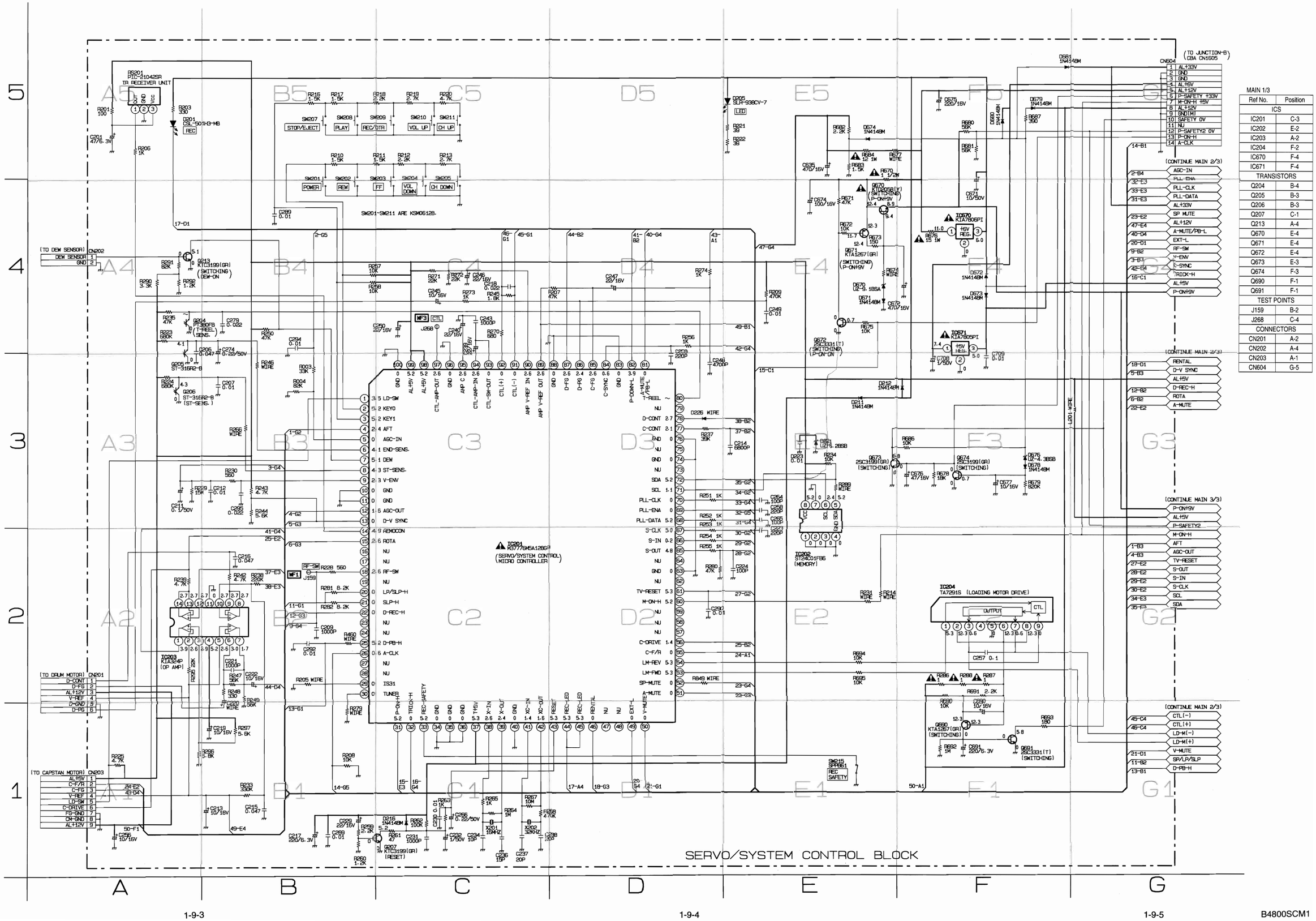
1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



9. Test Point Information

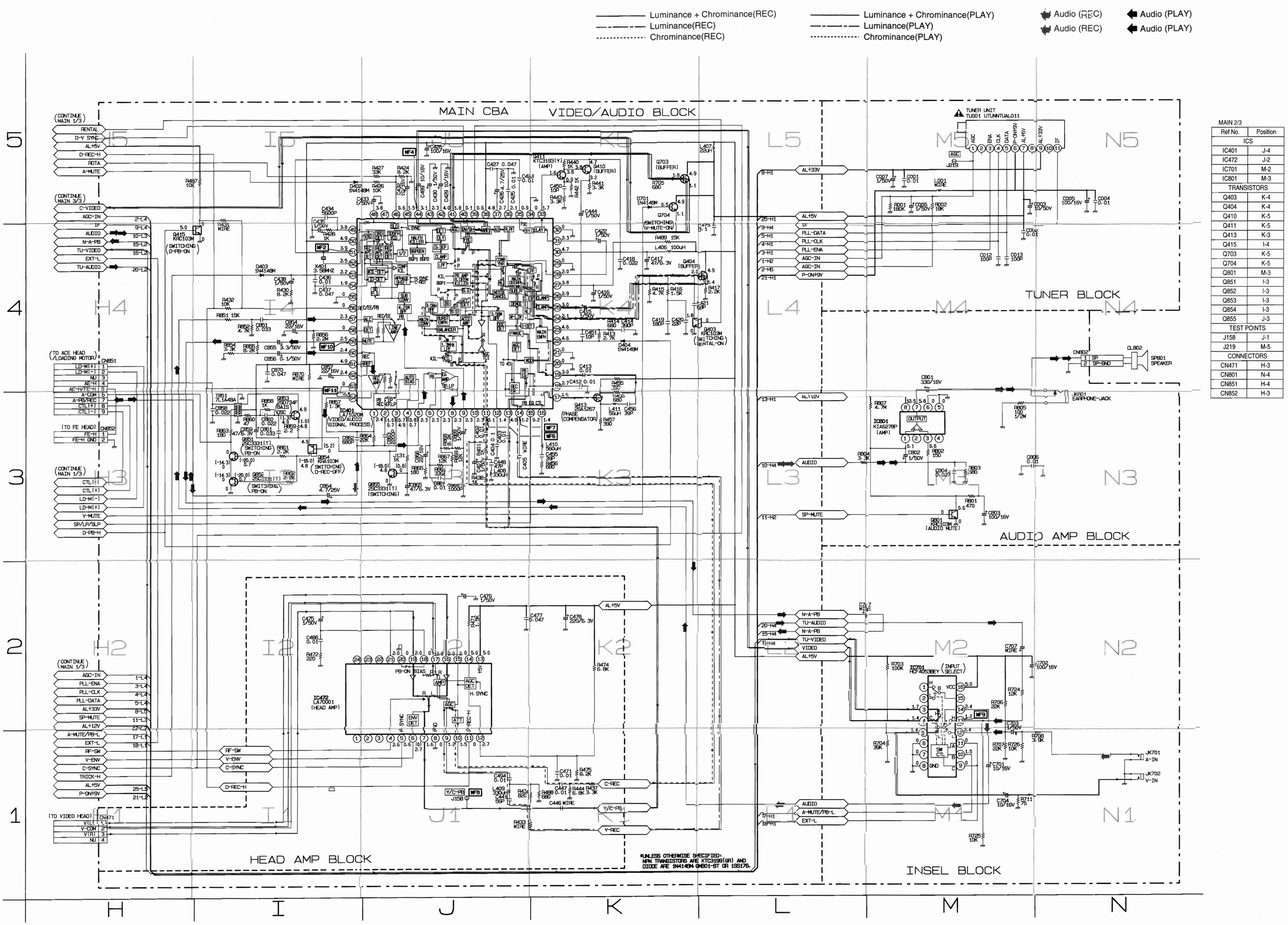
- : Indicates a test point with a jumper wire across a hole in the PCB.
- : Used to indicate a test point with a component lead on foil side.
- : Used to indicate a test point with no test pin.
- : Used to indicate a test point with a test pin.

Main 1/3 Schematic Diagram



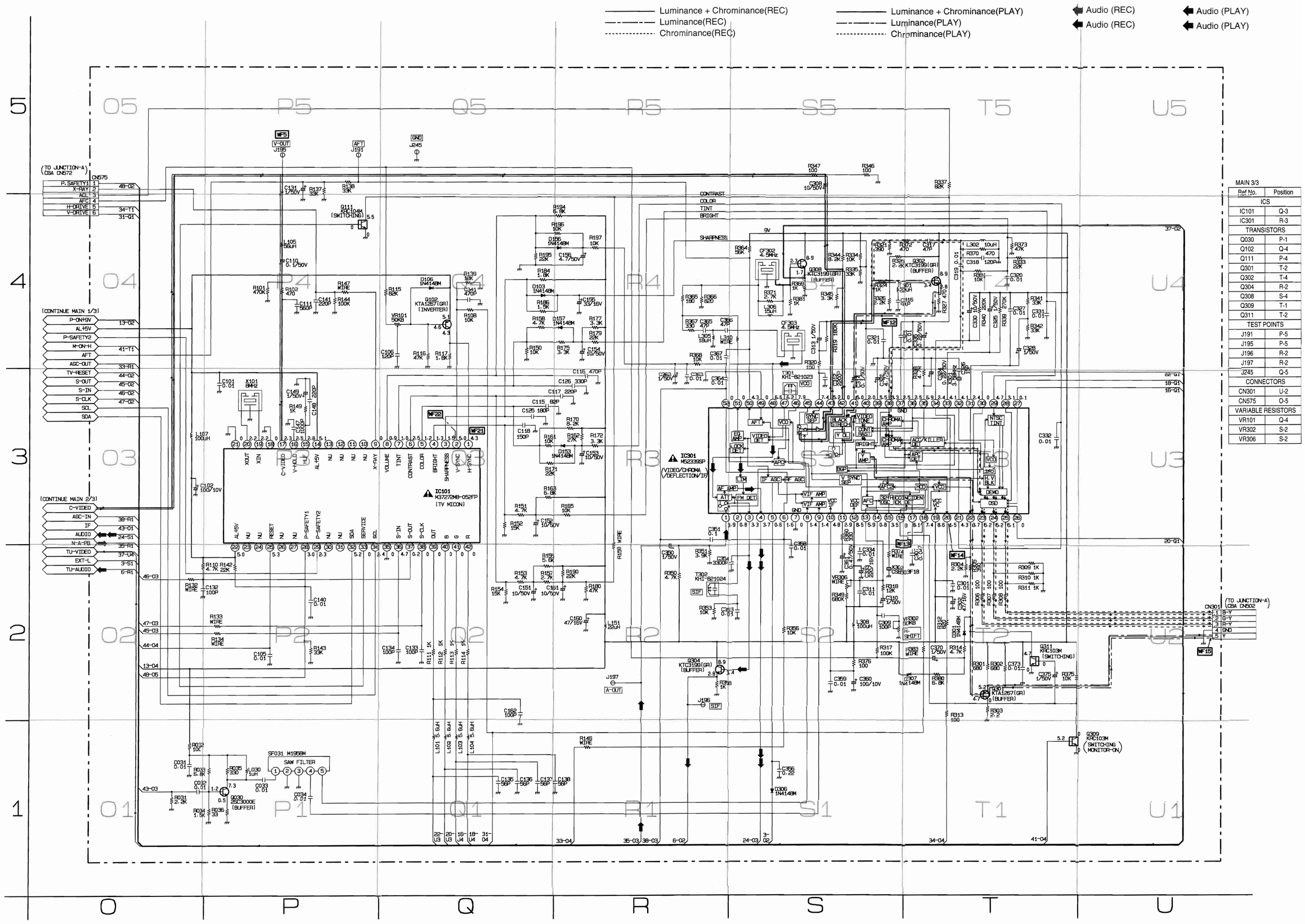
MAIN 1/3	
Ref No.	Position
ICS	
IC201	C-3
IC202	E-2
IC203	A-2
IC204	F-2
IC670	F-4
IC671	F-4
TRANSISTORS	
Q204	B-4
Q205	B-3
Q206	B-3
Q207	C-1
Q213	A-4
Q670	E-4
Q671	E-4
Q672	E-4
Q673	E-3
Q674	F-3
Q690	F-1
Q691	F-1
TEST POINTS	
J159	B-2
J268	C-4
CONNECTORS	
CN201	A-2
CN202	A-4
CN203	A-1
CN604	G-5

Main 2/3 Schematic Diagram



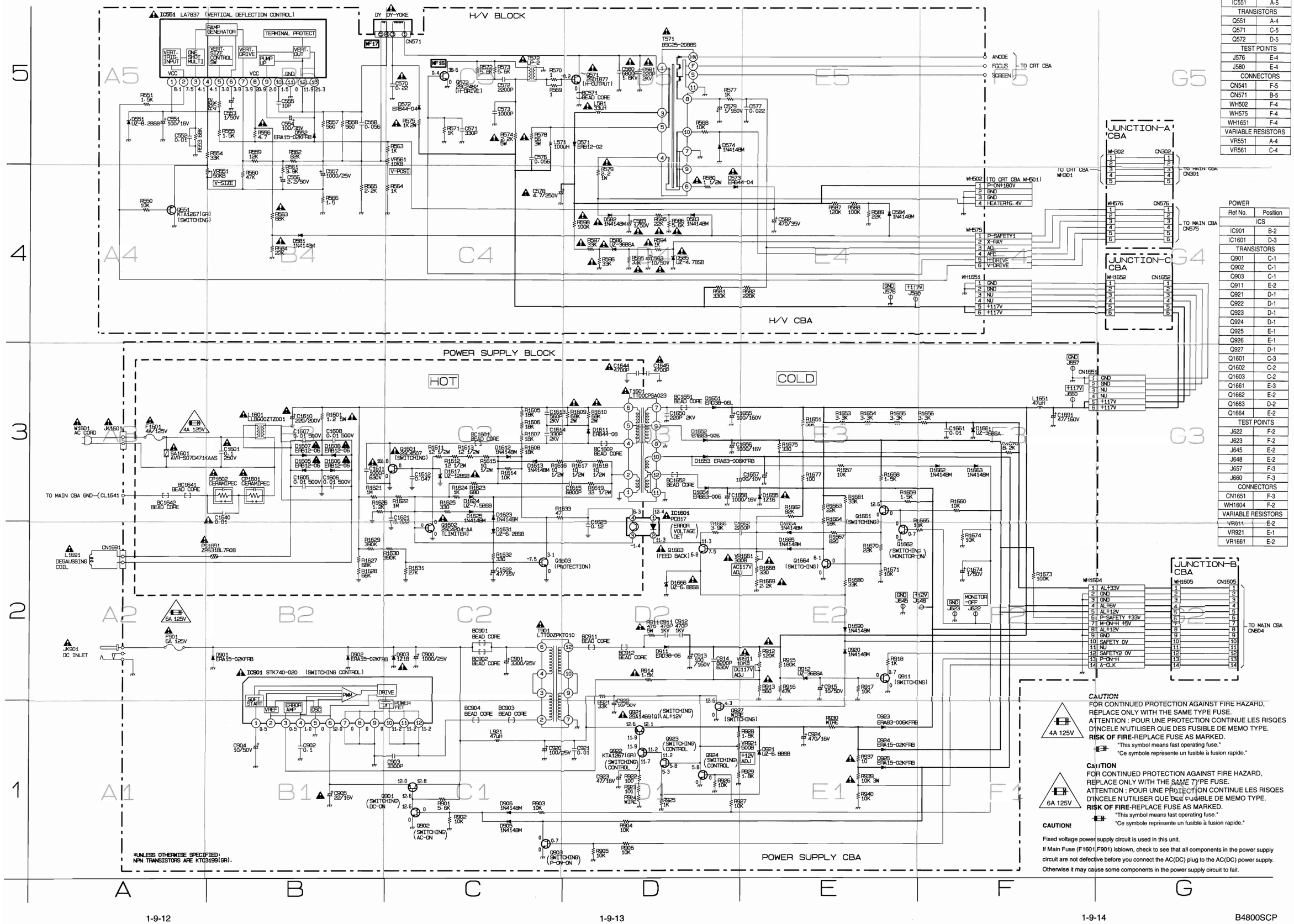
MAIN 2/3	
Ref No.	Position
ICS	
IC401	J-4
IC472	J-2
IC701	M-2
IC801	M-3
TRANSISTORS	
Q403	K-4
Q404	K-4
Q410	K-5
Q411	K-5
Q413	K-3
Q415	I-4
Q703	K-5
Q704	K-5
Q801	M-3
Q851	I-3
Q852	I-3
Q853	I-3
Q854	I-3
Q855	J-3
TEST POINTS	
J158	J-1
J219	M-5
CONNECTORS	
CN471	H-3
CN801	N-4
CN851	H-4
CN852	H-3

Main 3/3 Schematic Diagram



Ref No.	Position
ICS	
IC101	Q-3
IC301	R-3
TRANSISTORS	
Q030	P-1
Q102	Q-4
Q111	P-4
Q301	T-2
Q302	T-4
Q304	R-2
Q308	S-4
Q309	T-1
Q311	T-2
TEST POINTS	
J191	P-5
J195	P-5
J196	R-2
J197	R-2
J245	Q-5
CONNECTORS	
CN301	U-2
CN575	O-5
VARIABLE RESISTORS	
VR101	Q-4
VR302	S-2
VR306	S-2

Power Supply & H/V Schematic Diagram



H/V

Ref No.	Position
ICS	
IC551	A-5
TRANSISTORS	
Q551	A-4
Q571	C-5
Q572	D-5
TEST POINTS	
J576	E-4
J580	E-4
CONNECTORS	
CN541	F-5
CN571	B-5
WH502	F-4
WH575	F-4
WH1651	F-4
VARIABLE RESISTORS	
VR551	A-4
VR561	C-4

POWER

Ref No.	Position
ICS	
IC901	B-2
IC1601	D-3
TRANSISTORS	
Q901	C-1
Q902	C-1
Q903	C-1
Q911	E-2
Q921	D-1
Q922	D-1
Q923	D-1
Q924	D-1
Q925	E-1
Q926	E-1
Q927	D-1
Q1601	C-3
Q1602	C-2
Q1603	C-2
Q1661	E-3
Q1662	E-2
Q1663	D-2
Q1664	E-2
TEST POINTS	
J622	F-2
J623	F-2
J645	E-2
J648	E-2
J657	F-3
J660	F-3
CONNECTORS	
CN1651	F-3
WH1604	F-2
VARIABLE RESISTORS	
VR911	E-2
VR921	E-1
VR1661	E-2

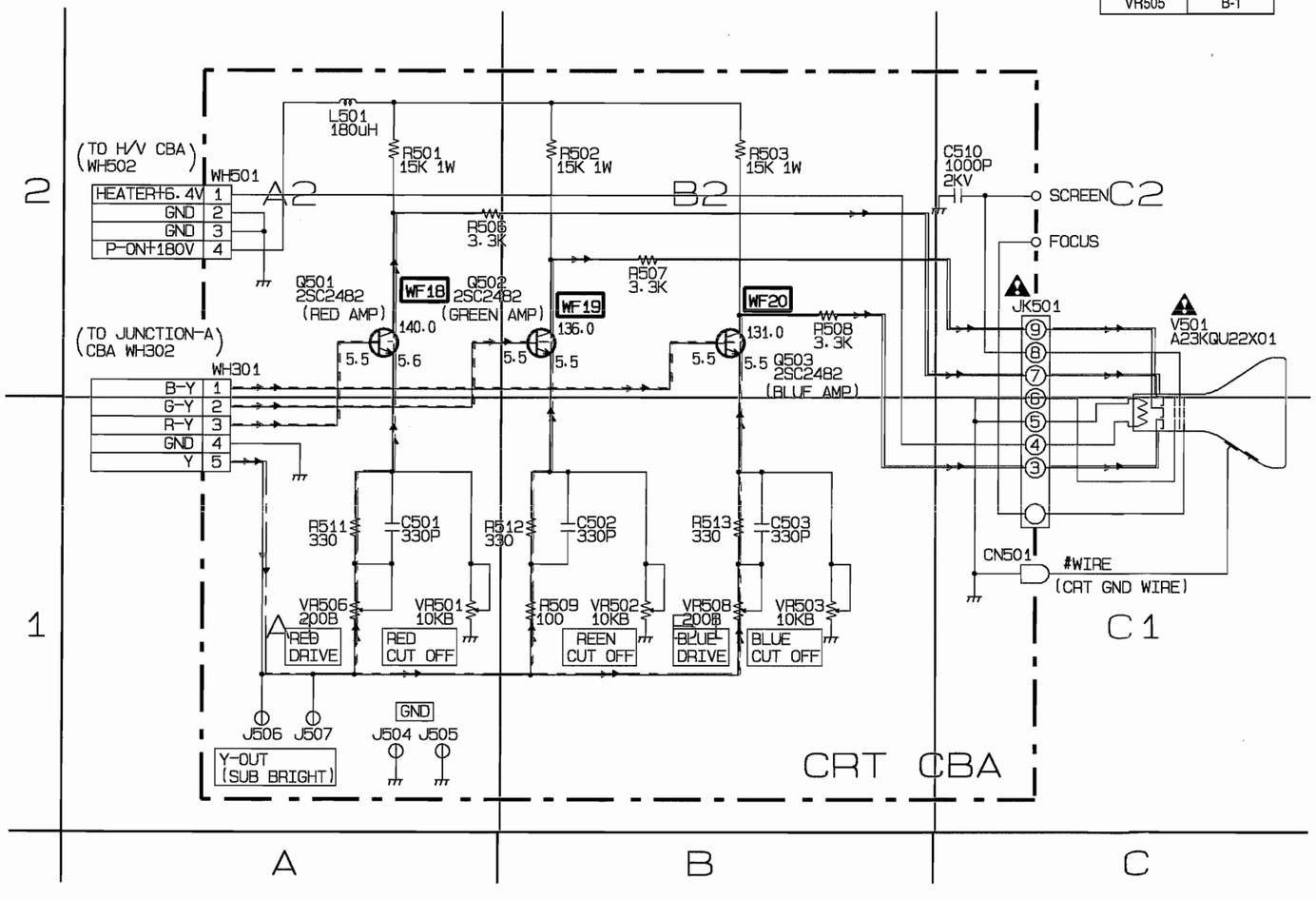
CRT Schematic Diagram

——— Luminance + Chrominance(REC)
— — — — Luminance(REC)
····· Chrominance(REC)

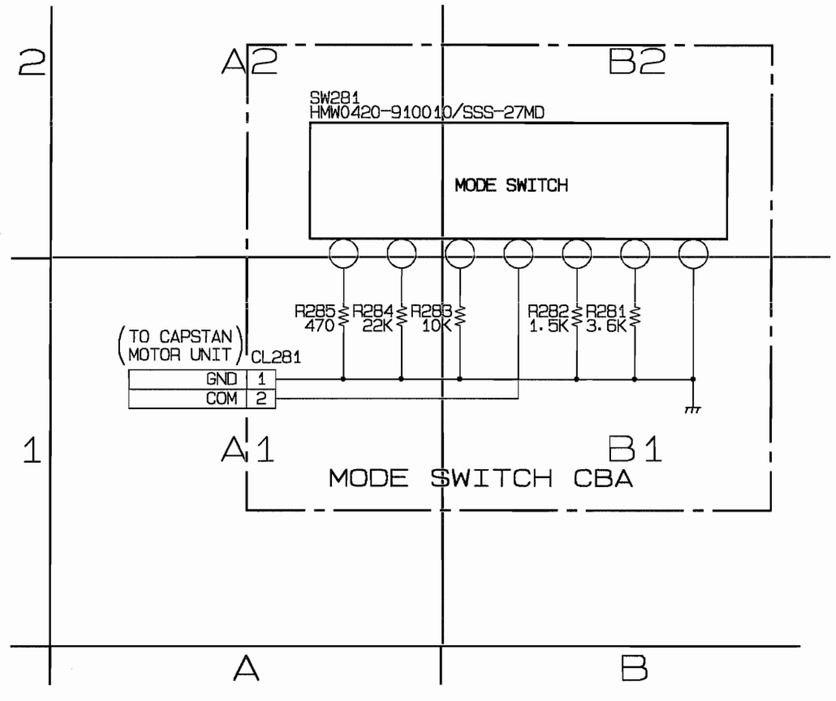
——— Luminance + Chrominance(PLAY)
— — — — Luminance(PLAY)
····· Chrominance(PLAY)

CRT

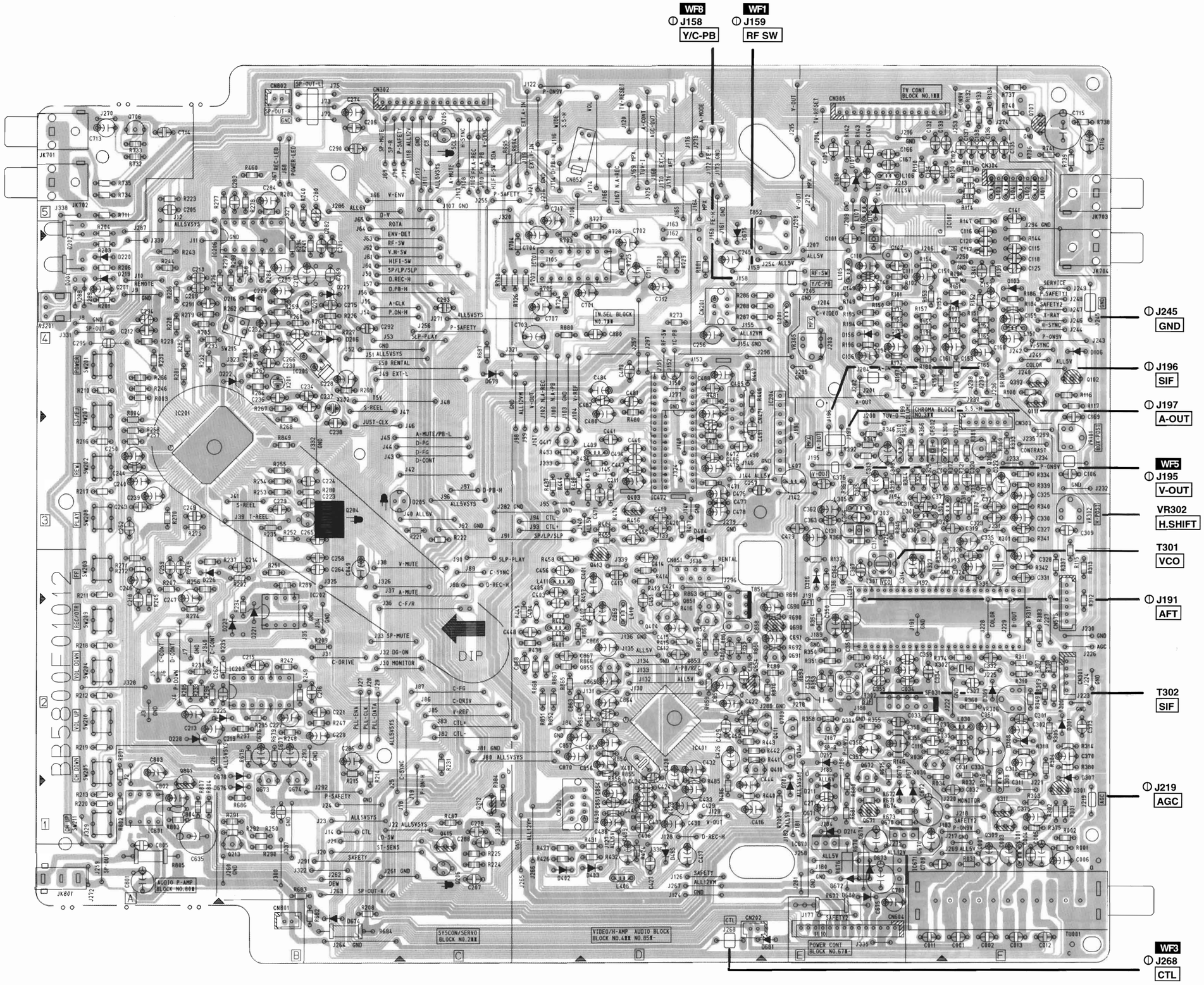
Ref No.	Position
TRANSISTORS	
Q501	A-2
Q502	A-2
Q503	B-2
TEST POINTS	
J501	A-1
J502	A-1
CONNECTORS	
CL501	A-2
CL502	A-1
CN501	C-1
VARIABLE RESISTORS	
VR501	A-1
VR502	A-1
VR503	B-1
VR504	B-1
VR505	B-1



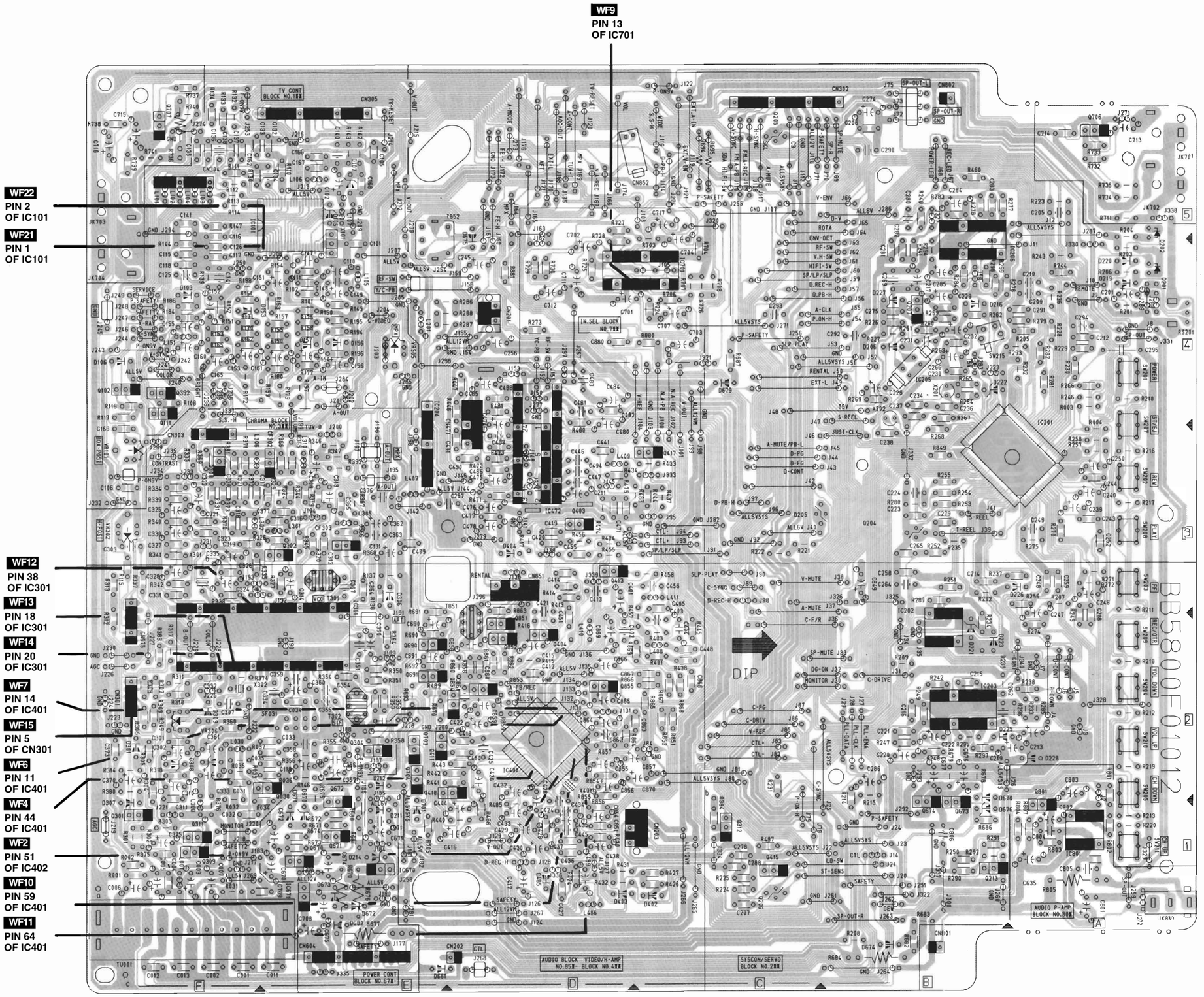
Mode Switch Schematic Diagram



Main CBA Top View



Main CBA Bottom View



MAIN CBA

Ref No.	Position
ICS	
IC101	E-5
IC201	A-3
IC202	B-2
IC203	B-2
IC204	E-3
IC301	E-2
IC401	D-2
IC472	D-3
IC670	F-1
IC671	F-1
IC701	C-4
IC801	A-1
TRANSISTORS	
Q030	E-2
Q102	F-4
Q111	F-4
Q204	B-3
Q205	C-5
Q206	C-1
Q207	C-4
Q213	B-1
Q301	F-1
Q302	E-3
Q304	E-2
Q308	F-3
Q309	F-1
Q311	F-1
Q403	D-3
Q404	D-2
Q410	E-2
Q411	E-2
Q413	D-3
Q415	C-1
Q670	E-1
Q671	E-1
Q672	E-1
Q673	B-1
Q674	B-1
Q690	E-2
Q691	E-2
Q703	E-2
Q704	E-2
Q801	A-1
Q851	D-2
Q852	D-2
Q853	D-2
Q854	D-2
Q855	D-2
TEST POINTS	
J158	D-4
J159	D-4
J191	E-3
J195	E-3
J196	E-3
J197	E-3
J219	F-1
J245	F-4
J268	D-1
CONNECTORS	
CN201	D-4
CN202	D-1
CN203	C-1
CN301	F-2
CN471	D-3
CN604	E-1
CN802	B-5
CN851	D-3
CN852	C-5
VARIABLE RESISTORS	
VR101	F-3
VR302	F-3
VR306	F-2

Power Supply CBA Top View

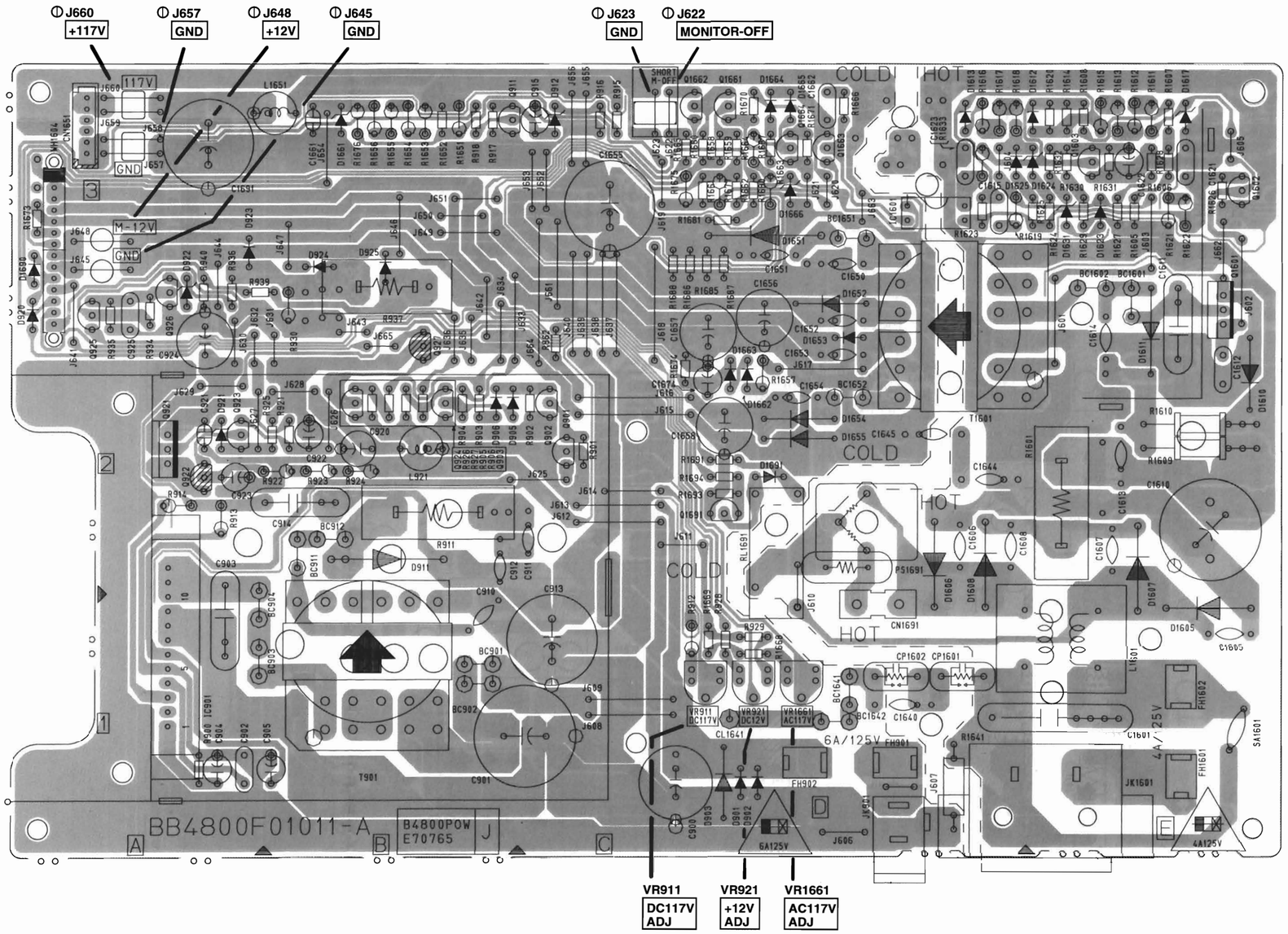
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

4A 125V

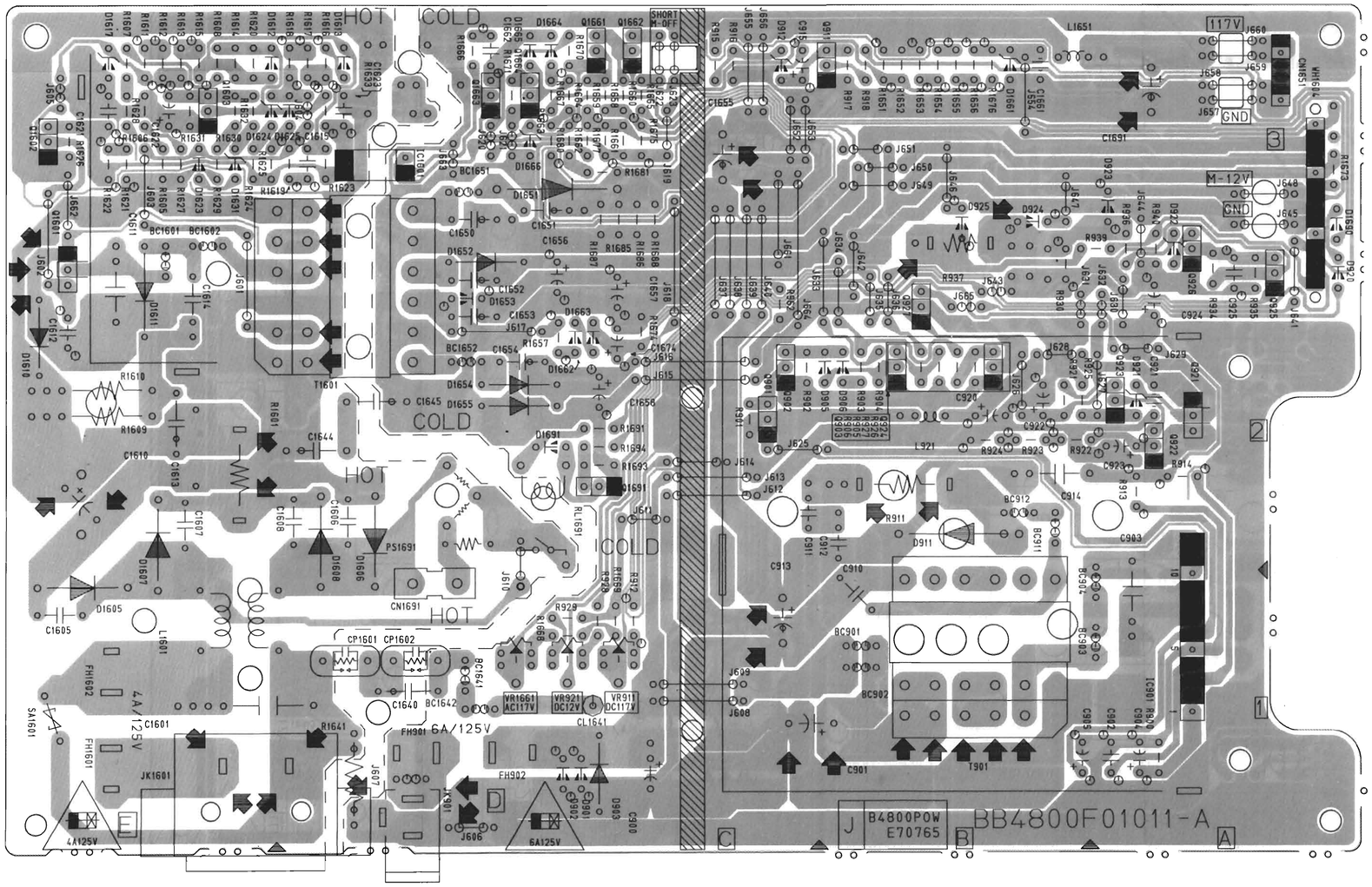
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

6A 125V

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F01) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



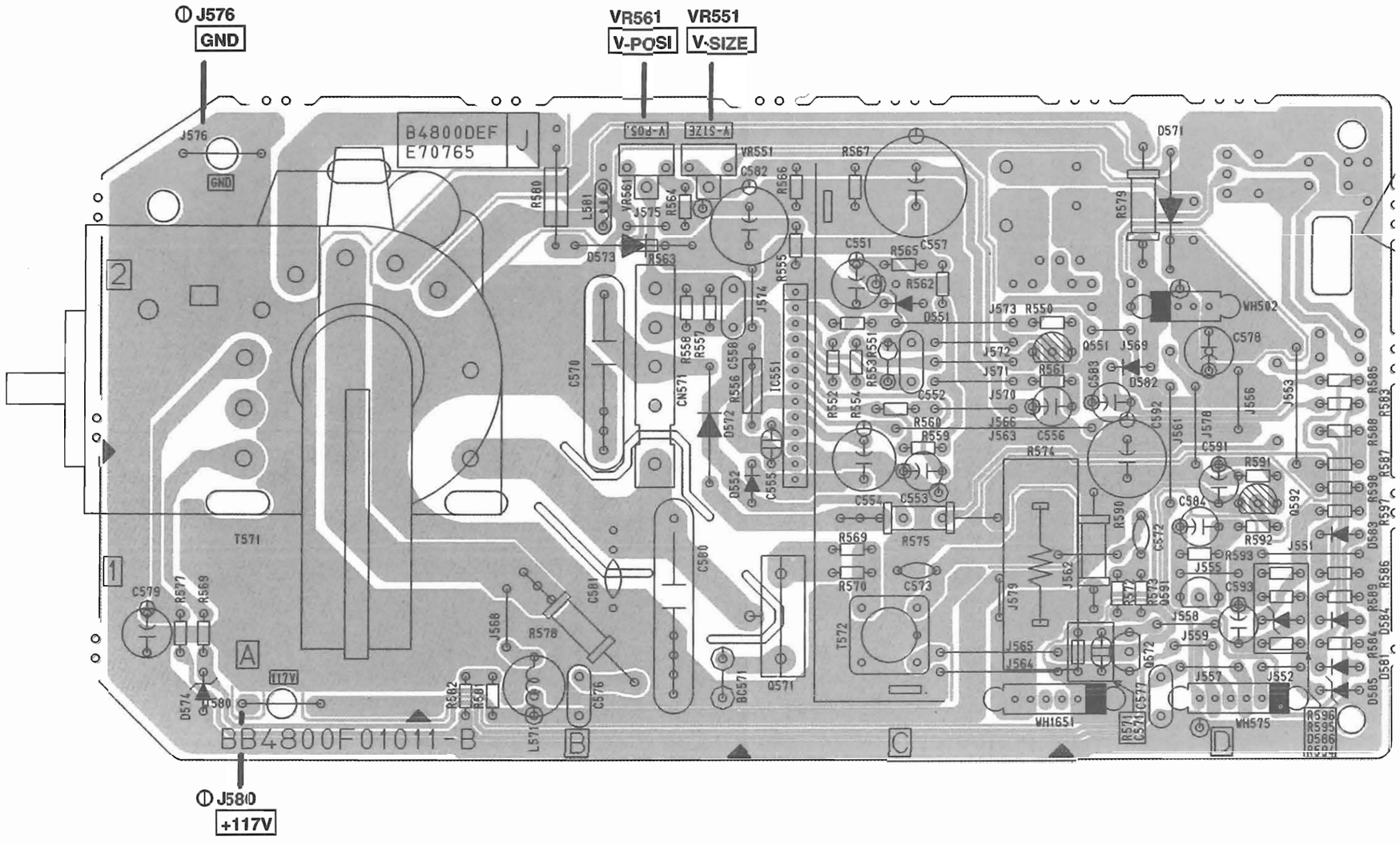
Power Supply CBA Bottom View



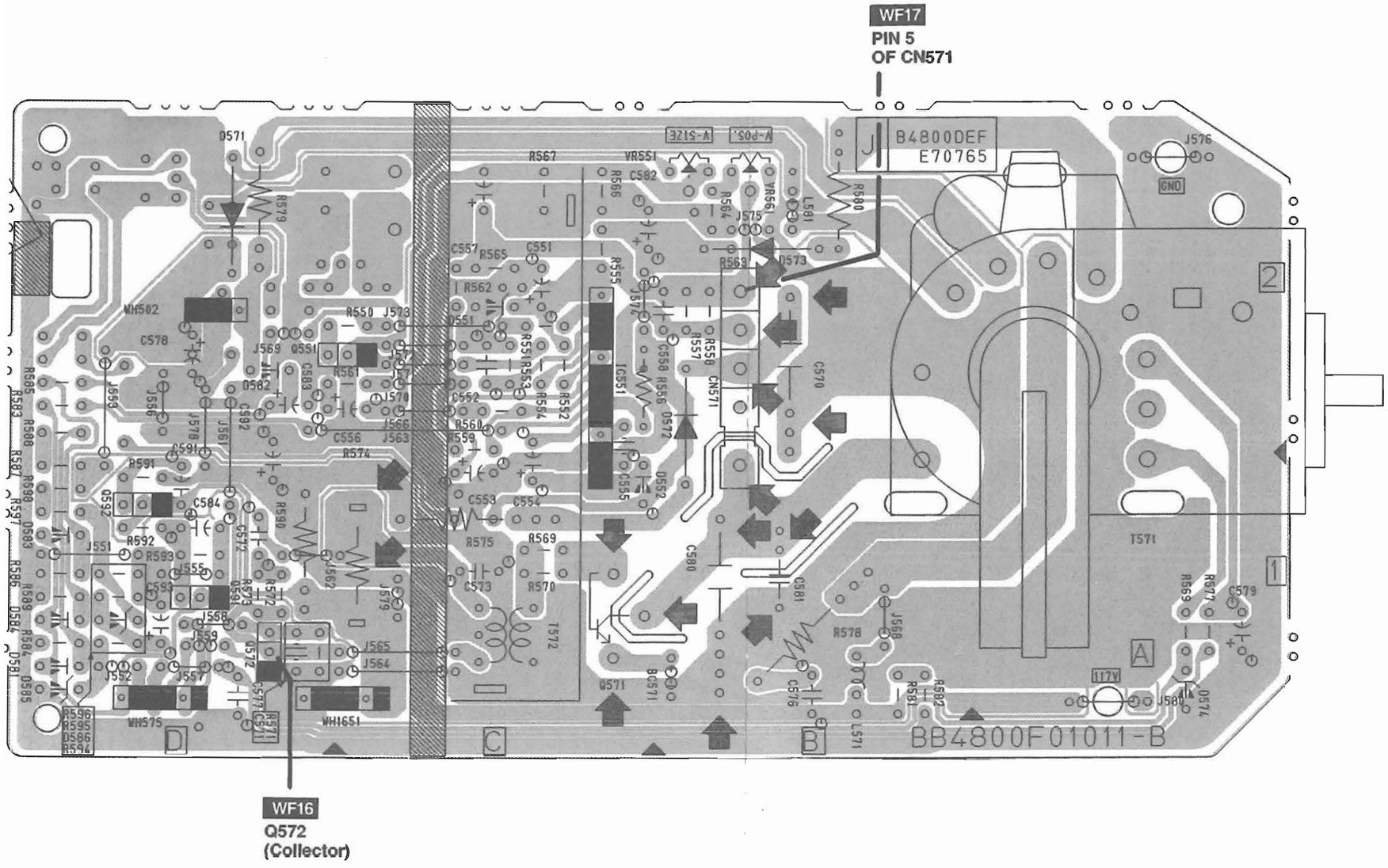
POWER SUPPLY CBA

Ref No.	Position
ICS	
IC901	A-1
IC1601	D-3
TRANSISTORS	
Q901	C-2
Q902	C-2
Q903	B-2
Q911	C-3
Q921	A-2
Q922	A-2
Q923	A-2
Q924	B-2
Q925	A-3
Q926	A-3
Q927	B-2
Q1601	E-3
Q1602	E-3
Q1603	E-3
Q1661	C-3
Q1662	C-3
Q1663	D-3
Q1664	D-3
TEST POINTS	
J622	C-3
J623	C-3
J645	A-3
J648	A-3
J657	A-3
J660	A-3
CONNECTORS	
CN1651	A-3
WH1604	A-3
VARIABLE RESISTORS	
VR911	C-1
VR921	C-1
VR1661	D-1

H/V CBA Top View



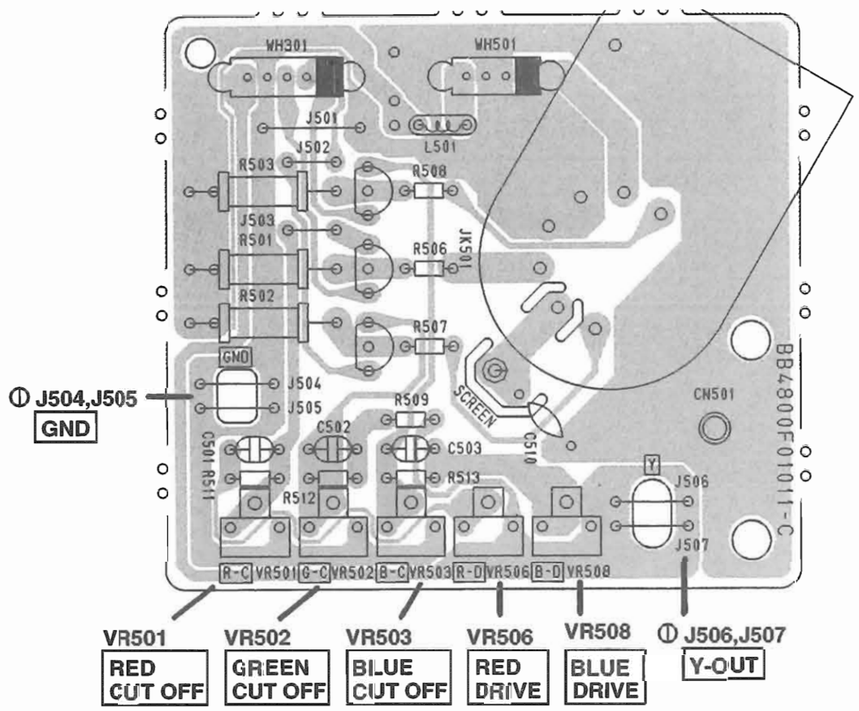
H/V CBA Bottom View



H/V CBA

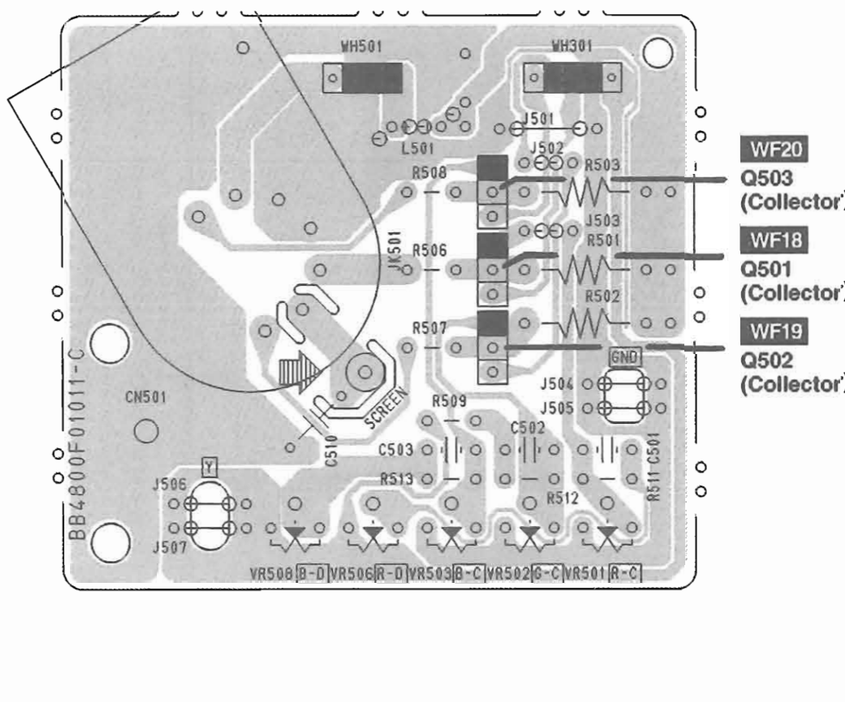
Ref No.	Position
ICS	
IC551	C-2
TRANSISTORS	
Q571	C-1
Q572	D-1
TEST POINTS	
J576	A-2
J580	A-1
CONNECTORS	
CN571	B-2
WH502	D-2
WH575	D-1
WH1651	D-1
VARIABLE RESISTORS	
VR551	B-2
VR561	B-2

CRT CBA Top View



BB4800F01011-C

CRT CBA Bottom View

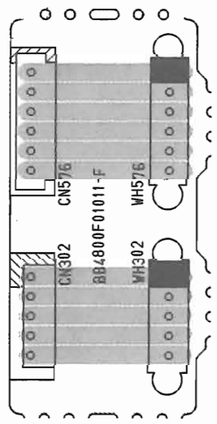


BB4800F01011-C

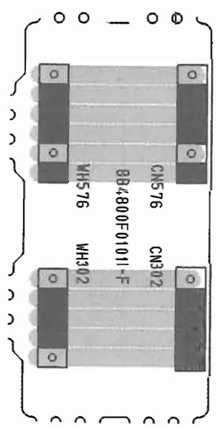
CRT CBA

Ref No.	Position
TRANSISTORS	
Q501	B-2
Q502	B-2
Q503	B-3
TEST POINTS	
J504	B-2
J505	B-2
J506	C-1
J507	C-1
CONNECTORS	
CN501	C-2
WH301	B-3
WH501	B-3
VARIABLE RESISTORS	
VR501	B-1
VR502	B-1
VR503	B-1
VR506	B-1
VR508	C-1

Junction A CBA Top View

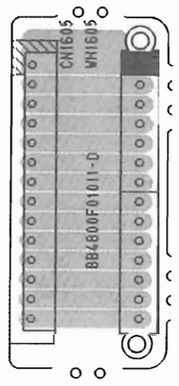


Junction A CBA Bottom View

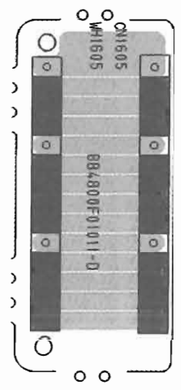


BB4800F01011-F

Junction B CBA Top View

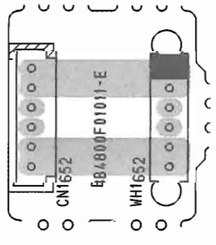


Junction B CBA Bottom View

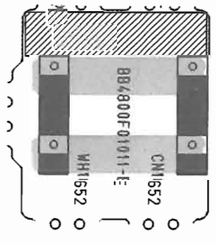


BB4800F01011-D

Junction C CBA Top View

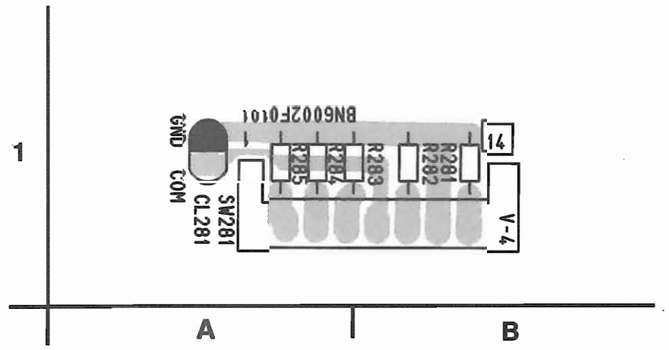


Junction C CBA Bottom View

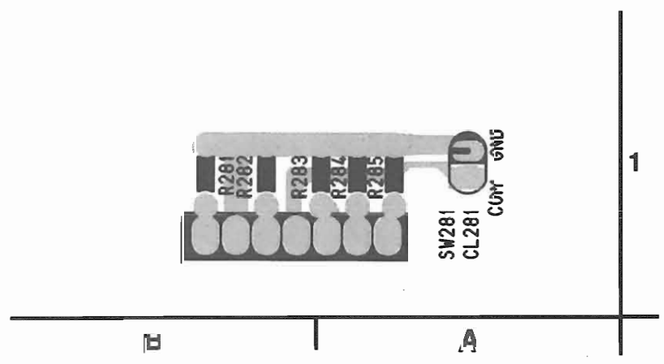


BB4800F01011-E

Mode Switch CBA Top View

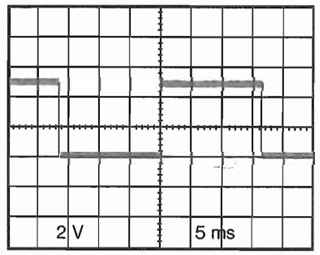


Mode Switch CBA Bottom View

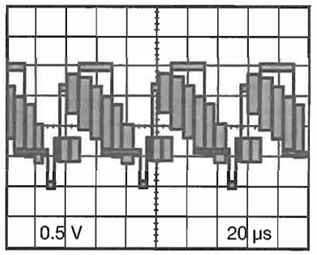


BN6002F01011

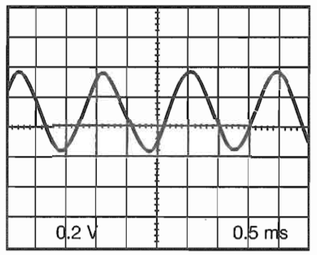
WAVEFORMS



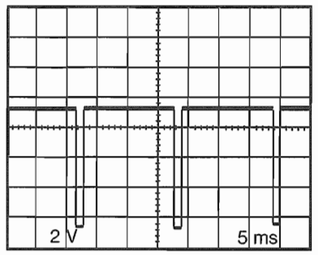
WF1 MAIN 1/3 SCHEMATIC DIAGRAM
J159 RF SW



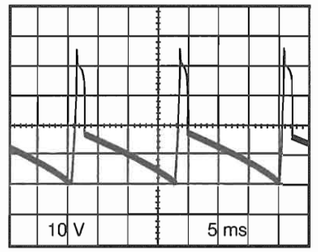
WF5 MAIN 3/3 SCHEMATIC DIAGRAM
J195 V-OUT



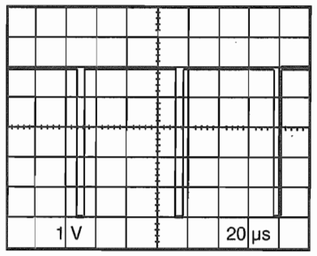
WF9 MAIN 2/3 SCHEMATIC DIAGRAM
IC701 PIN 13



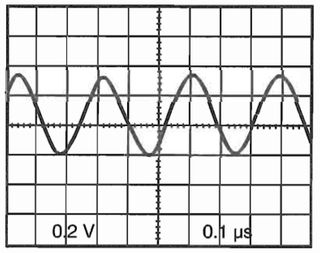
WF13 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 18



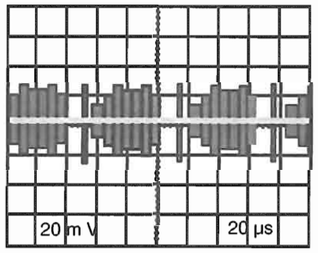
WF17 POWER SUPPLY/H/V
SCHEMATIC DIAGRAM CN571 PIN 4



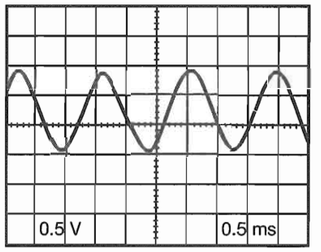
WF21 MAIN 3/3 SCHEMATIC DIAGRAM
IC101 PIN 1



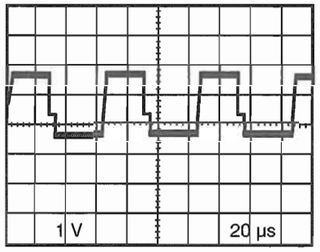
WF2 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 51



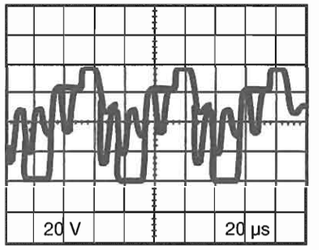
WF6 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN11



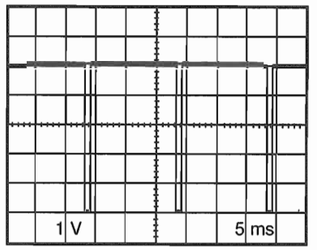
WF10 MAIN2/3 SCHEMATIC DIAGRAM
IC401 PIN 59



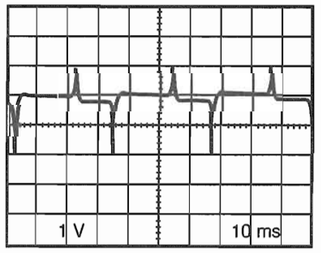
WF14 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 20



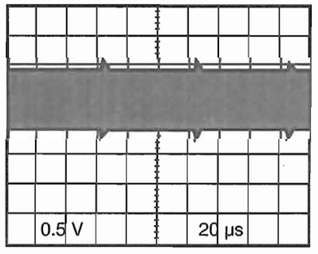
WF18 CRT SCHEMATIC DIAGRAM
Q501 COLLECTOR



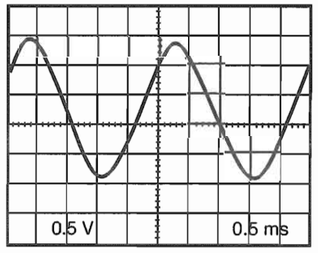
WF22 MAIN 3/3 SCHEMATIC DIAGRAM
IC101 PIN 2



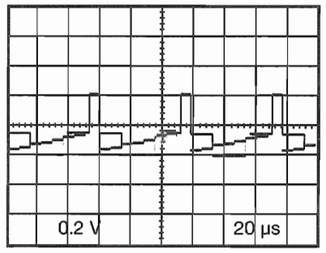
WF3 MAIN 1/3 SCHEMATIC DIAGRAM
J268 CTL



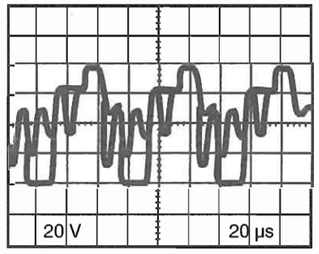
WF7 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 14 Y REC



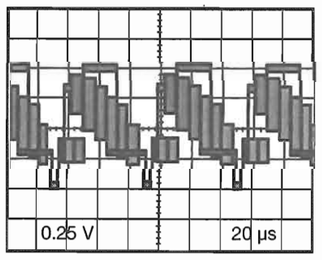
WF11 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 64



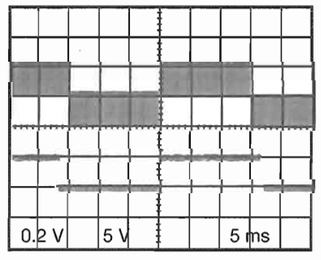
WF15 MAIN 3/3 SCHEMATIC DIAGRAM
CN301 PIN 5



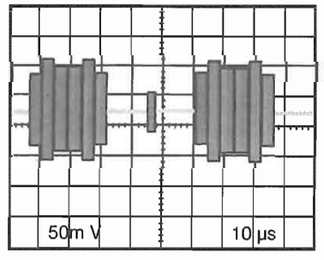
WF19 CRT SCHEMATIC DIAGRAM
Q502 COLLECTOR



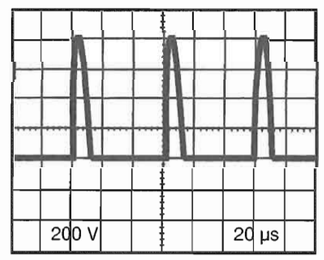
WF4 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 44



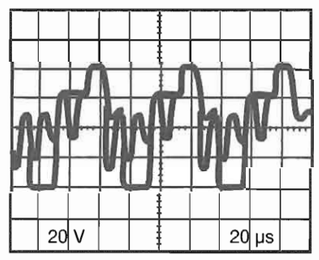
Upper: WF8 Lower: WF1
MAIN 2/3 SCHEMATIC DIAGRAM J158 C-PB



WF12 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 38



WF16 POWER SUPPLY/H/V
SCHEMATIC DIAGRAM Q572 COLLECTOR



WF20 CRT SCHEMATIC DIAGRAM
Q503 COLLECTOR

WAVEFORM NOTES

INPUT: NTSC COLOR BAR SIGNAL

OTHER CONTROLS : CENTER POSITION

SHOWING VOLTAGES ARE RANGE OF
OSCILLOSCOPE SETTING

WIRING DIAGRAM

WIRING DIAGRAM FOR SECTION 2 (DECK MECHANISM)

ANODE
CRT
GND
FOCUS
CRT CBA
BB4800F01011-C
CN501
SCREEN
WH301
B-Y 1
G-Y 2
R-Y 3
GND 4
Y 5
WH501
P-ON+180V 1
GND 2
GND 3
HEATER 4
SP801
SPEAKER
CL802
CN802
SP 1
SP-GND 2
WH302 CN302
CN301
B-Y 1
G-Y 2
R-Y 3
GND 4
Y 5
JUNCTION A CBA
BB5800F01011-F
T571
FBT
WH502
P-ON+180V 1
GND 2
GND 3
HEATER 4
WH575
P-SAFETY 1
X' RAY 2
ACL 3
AFC 4
H-DRIVE 5
V-DRIVE 6
WH576 CN576
CN575
P-SAFETY 1
X' RAY 2
ACL 3
AFC 4
H-DRIVE 5
V-DRIVE 6
D.Y.
HD
VD
CN571
1 2 3 4 5
H/V CBA
BB4800F01011-B
WH1651
GND 1
GND 2
NC 3
NC 4
+117V 5
+117V 6
JUNCTION C CBA
BB4800F01011-E
CN1651
GND 1
GND 2
NC 3
NC 4
+117V 5
+117V 6
CN1652 WH1652
CN1691
POWER SUPPLY CBA
BB4800F01011-A
WH1604
AL+33V 1
GND 2
GND 3
AL+6V 4
AL+12V 5
P-SAFETY 6
M-ON-H 7
AL+12V 8
GND 9
SAFETY 10
NU 11
SAFETY2 12
P-ON-H 13
A-CLK 14
WH1605 CN1605
CN604
AL+33V 1
GND 2
GND 3
AL+6V 4
AL+12V 5
P-SAFETY 6
M-ON-H 7
AL+12V 8
GND 9
SAFETY 10
NU 11
SAFETY2 12
P-ON-H 13
A-CLK 14
JUNCTION B CBA
BB4800F01011-D
JK901
DC INLET
JK1601
W601
AC CORD
MAIN CBA
BB5800F01012
CN202
DEW SENS. 1
GND 2
DEW SENSOR
CN203
AL+5V 1
C-F/R 2
C-FG 3
V-REF 4
LD-SW 5
C-DRIVE 6
FG GND 7
CM GMD 8
AL+12V 9
CAPSTAN MOTOR UNIT
MODE SW CBA
BN6002F01011
SW281
MODE SWITCH
CN851
LD-M(+) 1
LD-M(-) 2
NU 3
AE-H /FE-H 4
AE-H 5
A-COM 6
A-PB/REC 7
CTL(+) 8
CTL (-) 9
LOADING MOTOR UNIT
LOADING MOTOR
M
CN287
1 AUDIO ERASE HEAD
2
3 AUDIO HEAD
4
5 CONTROL HEAD
6
ACE HEAD UNIT
CN471
V(L) 1
V-COM 2
V(R) 3
NU 4
VIDEO L HEAD
VIDEO R HEAD
CN201
D-CONT 1
D-FG 2
AL+12V 3
V-REF 4
D GND 5
D-PG 6
DRUM MOTOR UNIT
CN852
FE-H 1
FE-H GND 2
FE HEAD UNIT
FULL ERASE HEAD

SYSTEM CONTROL TIMING CHARTS

CHART 1

1. EJECT → CASS. IN → STOP(B) → STOP(A) → PLAY → RS → FS → PLAY → STILL → PLAY → STOP(A)

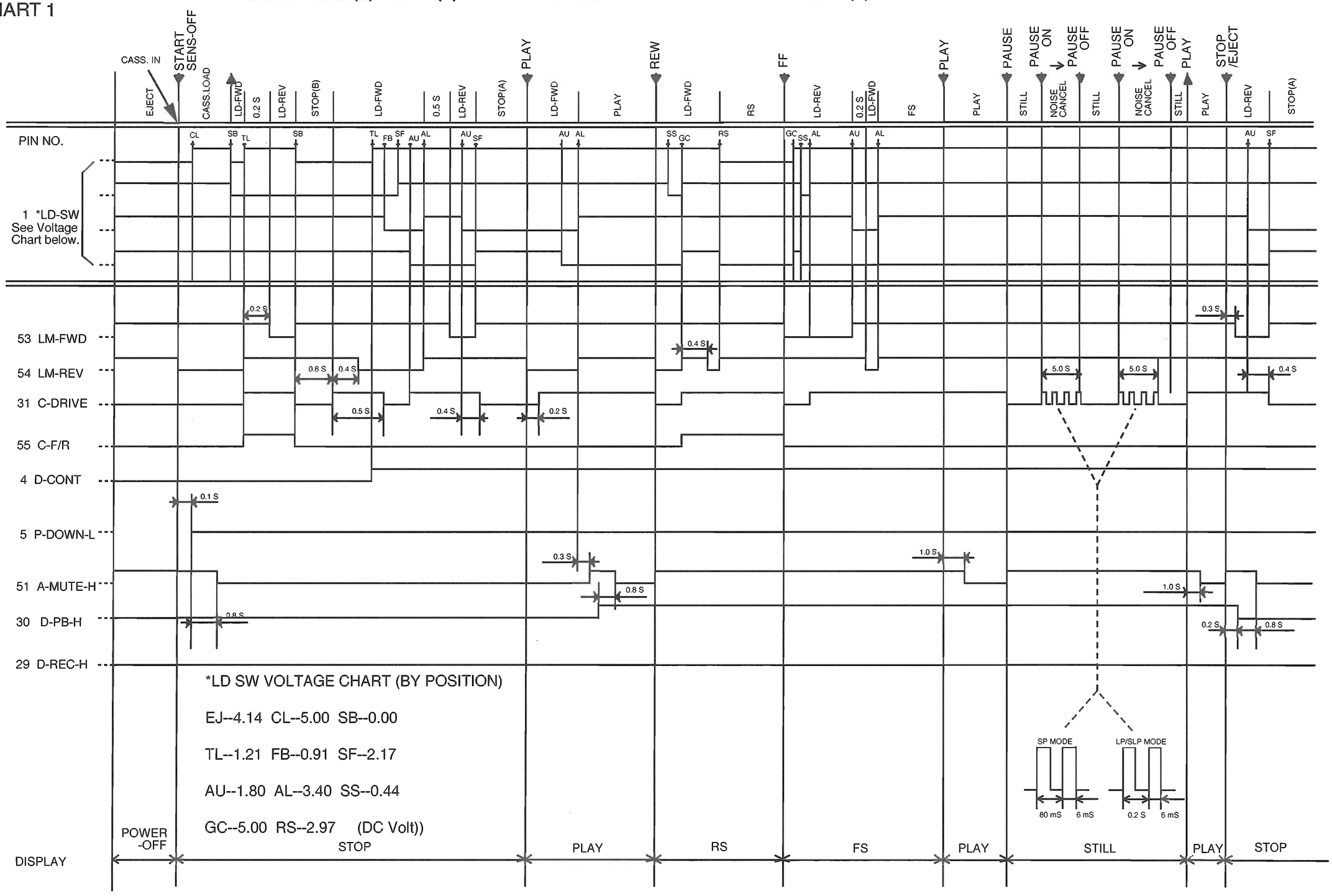
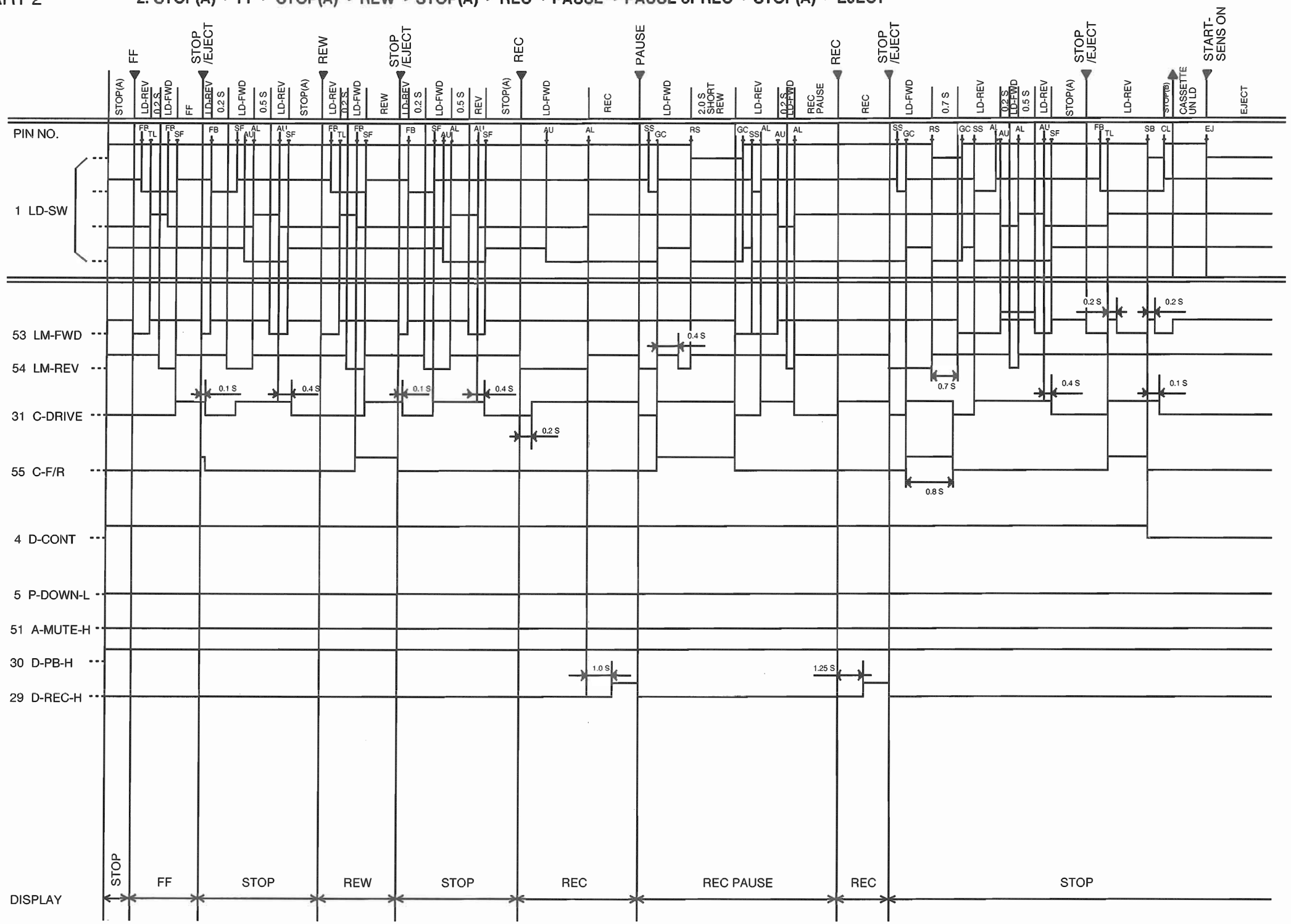


CHART 2

2. STOP(A)→ FF→ STOP(A)→ REW→ STOP(A)→ REC→ PAUSE→ PAUSE or REC→ STOP(A)→ EJECT



IC PIN FUNCTIONS

IC101 (TV Micro Computer)

Pin No.	In/ Out	Signal Name	Function	Active Level
1	In	H-SYNC	Horizontal Synchronized Pulse Input	L
2	In	V-SYNC	Vertical Synchronized Pulse Input	L
3	Out	SHARP NESS	SHARPNESS Control	
4	Out	BRIGHT	Bright Contro	
5	Out	COLOR	Color Control	
6	Out	CONT RAST	Contrast Control	
7	Out	TINT	Tint Control	
8		VOLUME	Volume Control	
9	Out	X-RAY	X-Ray Protection	
10			Not Used	
11			Not Used	
12			Not Used	
13			Not Used	
14		ALL +5V	ALL +5V	
15		HLF	HLF	
16	In	VHOLD	VHOLD	
17	In	C-VIDEO	Composit V-Sync	
18		GND	GND	
19	In	XIN	Oscillator Input	
20	Out	XOUT	Oscillator Output	—
21		GND	GND	—
22		ALL +5V	ALL +5V	—
23			Not Used	
24			Not Used	—
25	In	RESET	Reset	—
26			Not Used	—
27			Not Used	—
28	In	P-SAFETY 1	P-Safety 1	—
29	In	P-SAFETY 2	P-Safety 2	—
30			Not Used	
31			Not Used	
32	In	SDA	E2PROM Data	
33	Out	SERVICE	Service Output	
34	In	SCL	E2PROM Clock	
35		GND	GND	
36	In	S-IN	Serial Data Input	
37	Out	S-OUT	Serial Data Output	
38	In	S-CLK	Serial Data Input	
39	Out	OUT	Picture Shut off signal	
40	Out	B	Blue Out	
41	Out	G	Green Out	
42	Out	R	Red Out	

IC201 (VCR-MICRO COMPUTER)

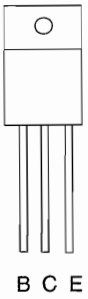
Pin No.	In/ Out	Signal Name	Function	Active Level
1	In	LD-SW	Loading SW Input	
2	In	KEY0	Key0 Input	
3	In	KEY1	Key1 Input	
4	In	AFT	AFT Input	
5	In	AGC-IN	AGC Input for Adjustment	
6	In	END-SENS	End-Sensor	
7		DEW	Dew Sensor	
8	In	ST-SENS	Start Sensor	
9	In	V-ENV	V-Env Input	
10		GND	GND	
11		GND	GND	
12	Out	AGCOUT	AGC Output for Adjustment	
13	Out	SYNC	Artificial Sync Output	
14	In	REMO CON	Remote control Input	
15	Out	ROTA	Rota Output	
16			Not Used	
17			Not Used	
18	Out	RF-SW	RF-SW Output	
19			Not Used	
20	Out	LP/SLP-H	Tape Speed Output	
21	Out	SLP-H	Tape Speed Output	
22	Out	D-REC-H	Recording Output	
23			Not Used	
24			Not Used	

Pin No.	In/ Out	Signal Name	Function	Active Level
25	Out	D-PB-H	Play Back Output	
26			A-CLK	
27			Not Used	
28			Not Used	
29	In	IS31	IS31 On/Off Detection	
30	In	TUNER	Tuner Judgement	
31	Out	P-ON-H	P-ON Output	
32		TRICK-H	Special Playback	
33	In	REC-SEF	Rec-Tab Detection	
34		GND	GND	
35		GND	GND	
36		GND	GND	
37		T +5V	T-+5V In	
38	In	X in	Oscillator Input	
39	Out	X-Out	Oscillator Output	
40		GND	GND	
41	In	XC-in	Oscillator C Input	
42	Out	XC-out	Oscillator C Output	
43	In	RESET	Reset	
44	Out	REC-LED	REC-LED	
45	Out	REC-LED	REC-LED	
46	Out	RENTAL	Rental Position Output	
47			Not Used	
48			Not Used	
49	Out	EXT-L	EXT-Selection Output	
50	Out	V-MUTE	V-MUTE Output	
51	Out	A-MUTE	Audio Mute Output (Mute="H")	
52	Out	SP-MUTE	Speaker Mute Output	
53	Out	LM-FWD	LD-FWD Output	
54	Out	LM-REV	LD-REW Output	
55	Out	C-F/R	Capstan Direction Output	
56	I/O	C-DRIVE	Capstan Drive Output	
57			Not Used	
58			Not Used	
59			Not Used	
60	Out	M-ON-H	Monitor Output	
61	Out	TV-RESET	TV Reset Output	
62			Not Used	
63		GND	GND	

Pin No.	In/ Out	Signal Name	Function	Active Level
64			Not Used	
65	Out	S-OUT	Serial Date Output	
66	In	S-IN	Serial Date Input	
67	Out	S-CLK	Serial Clock Output	
68	Out	PLL-DATA	PLL-Data Output	
69	Out	PLL-ENA	PLL-ENA Output	
70	Out	PLL-CLK	PLL-CLK Output	
71	Out	SCL	E2PROM Clock	
72		SDA	E2PROM Clock	
73			Not Used	
74		GND	GND	
75			Not Used	
76		GND	GND	
77	Out	C-CONT	C-Cont Output	
78	Out	D-CONT	Drum Control Output	
79			Not Used	
80	In	T-REEL	Takeup Reel Puls Input	
81	Out	PB-L	A-Mute Output	
82	In	P-DOWN	Power Failure Detection	
83		GND	GND	
84	In	C-SYNC	C-SYNC Input	
85	In	C-FG	C-FG Input	
86	In	D-PG	D-PG Input	
87	In	D-FG	D-FG Input	
88		GND	GND for Amp	
89	Out	AMPV REF. OUT	Standard Voltage Output	
90	In	AMPV REF. IN	Standard Voltage Input	
91		CTL (-)	CTL (-)	
92		CTL (+)	CTL (+)	
93	Out	CTL-SW-Out	CTL +SW Out	
94	In	CTL-AP IN	CTL Amp Input	
95		AMPC	AMPC	
96		GND	GND for CTL	
97	Out	CTL-AMP OUT	CTL Amp Output	
98		ALL +5V	Power supply for Amp	
99		ALL +5V	A/D, D/A Standard Voltages	
100		GND	GND	

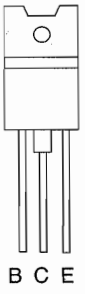
LEAD IDENTIFICATIONS

2SC4507



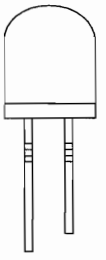
E: Emitter
C: Collector
B: Base

2SD1877



E: Emitter
C: Collector
B: Base

PT380FAB



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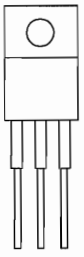
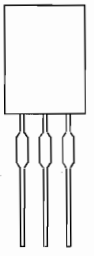
KIA7806





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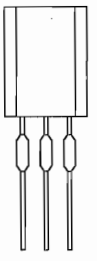
KRA103M
KRC103M
2SC2839
KTD2058



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2SC3000
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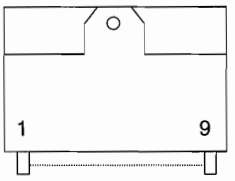
KTC3199
KRA103M
2SB698

PC817

LA7837



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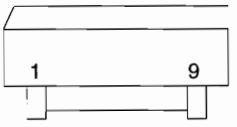

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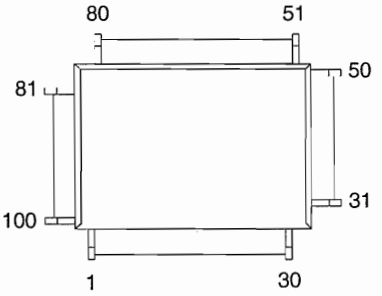

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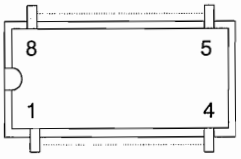

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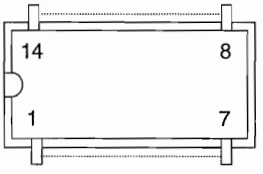

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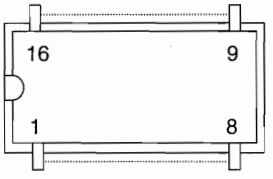

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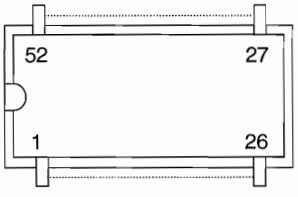
M52339SP



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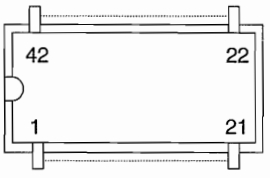

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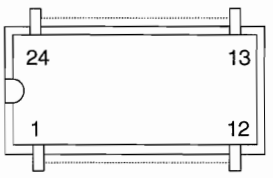
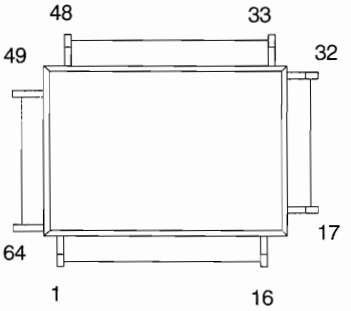


LA71020M



DECK MECHANISM SECTION

9" COLOR TV/VCR COMBINATION

TVCR9G1
F9TRG1

Sec. 2: Deck Mechanism Section

- **Standard Maintenance**
- **Alignment for Mechanism**
- **Disassembly/Assembly of Mechanism**

TABLE OF CONTENTS

Standard Maintenance 2-1-1
Service Fixtures and Tools 2-2-1
Mechanical Alignment Procedures 2-3-1
Disassembly/Assembly Procedures of Deck Mechanism 2-4-1
Front Loading Assembly 2-4-8
Alignment Procedure of Mechanism 2-4-10

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ○: Check ●: Change

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B21	Loading Belt		●		●
B27	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B32, B339	Reel Base Assembly			●	
B37	Capstan Motor		●		●
B52	Capstan Belt		●		●
B54	Spring Plate Assembly			●	
B73	FE Head CBA				
B132	Clutch Assembly		●		●
B133	Idler Assembly		●		●
B410	Pinch Roller Arm Assembly		●		●
B413	Main Brake T Assembly		●		●
B414	Main Brake S Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

Cleaning

Cleaning of Video Head

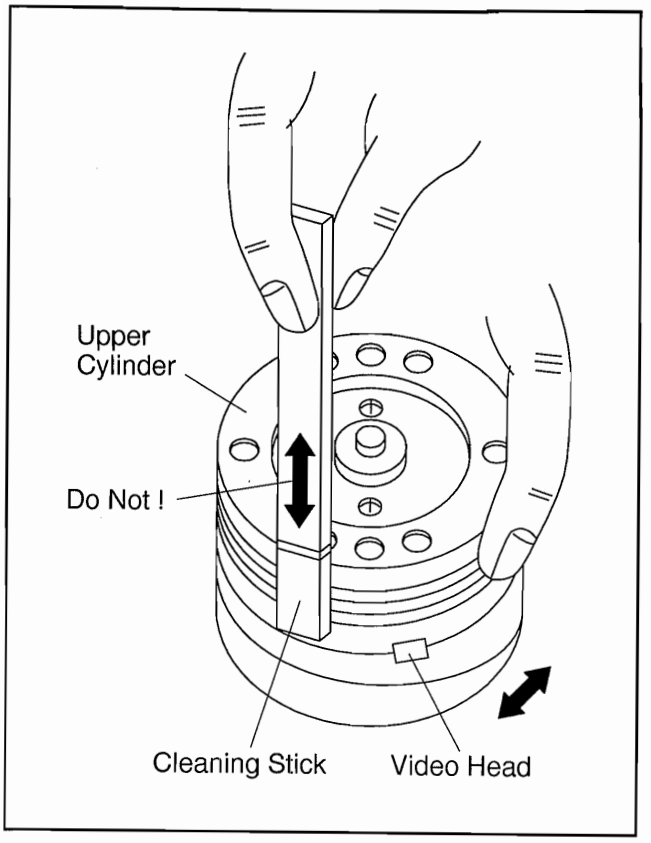
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

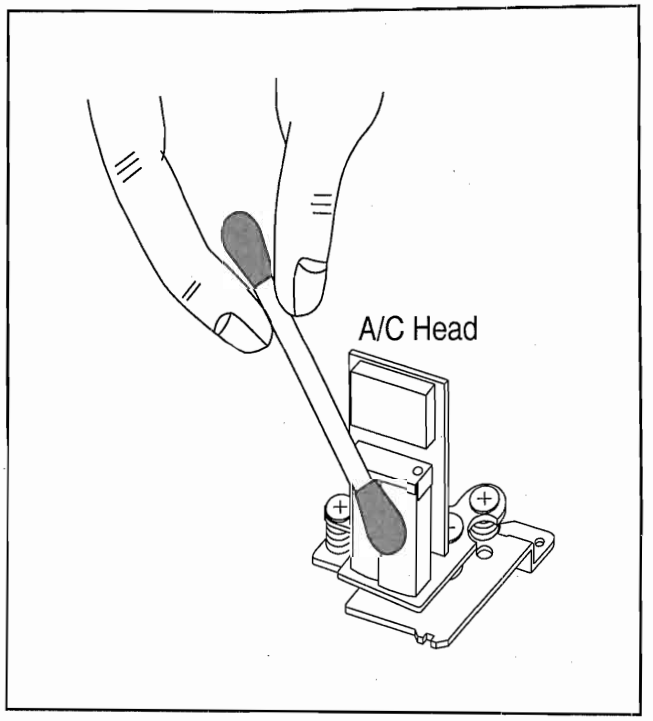
Clean the head with a cotton swab.

Procedure

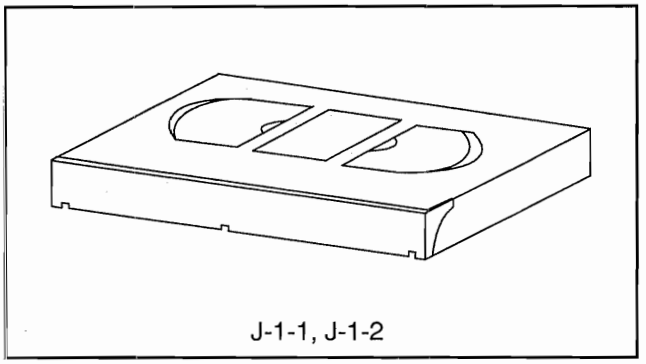
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

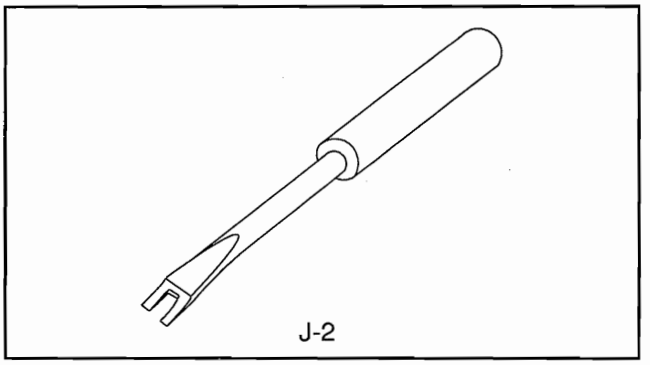
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



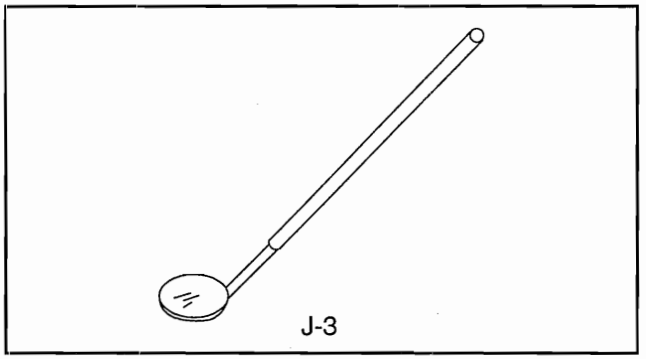
SERVICE FIXTURE AND TOOLS



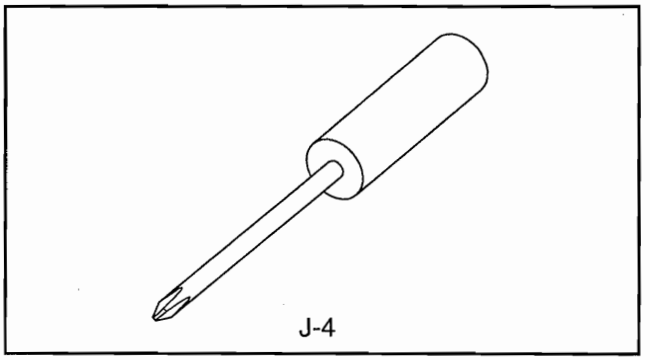
J-1-1, J-1-2



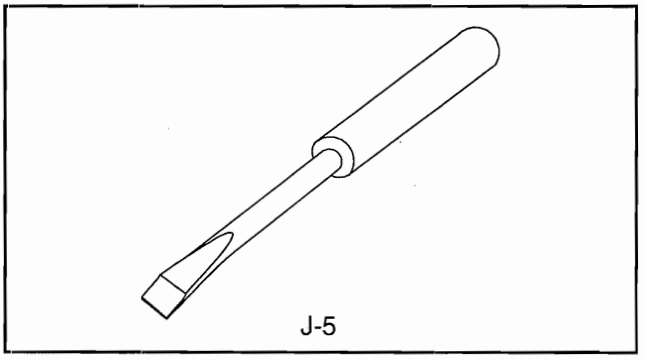
J-2



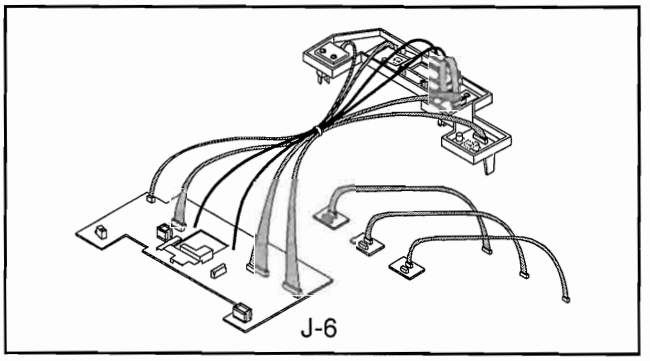
J-3



J-4



J-5



J-6

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	FSJ-0006	Guide Roller
J-3	Mirror	FSJ-0004	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value
J-6	U15 Deck Extension Cable	N1090XA	All Mechanical and Electrical Adjustments

Note:
Before starting any adjustment, take the Deck Assembly out of the cabinet and use J-6 to connect the Deck Assembly with the Main CBA.

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 until the cassette tape is fully loaded. By turning the Pulley Assembly, you are turning the cam indicated in this figure. However, movement of the cam will be very slow. Allow a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 to unload the cassette tape. When turning the Pulley Assembly, please be aware that this is a long process and the cassette will not start getting unloaded instantaneously. Within this long process, before the cassette actually starts getting unloaded, there is a time period during which the moving guide assemblies slide back to their original positions shown in Fig. M1. However, the tape will be left wound around the cylinder. To put the tape back into the cassette, gently turn the Capstan Motor in the direction shown in Fig. M2. Make sure that the tape is completely placed back in the cassette before the cassette starts getting unloaded. Otherwise the tape hanging out will be caught and damaged by the lid of the cassette when it closes.
   By turning the Pulley Assembly, you are turning the cam indicated in Fig. M1. As stated, movement of the cam will be very slow. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the Pulley Assembly until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

Top View

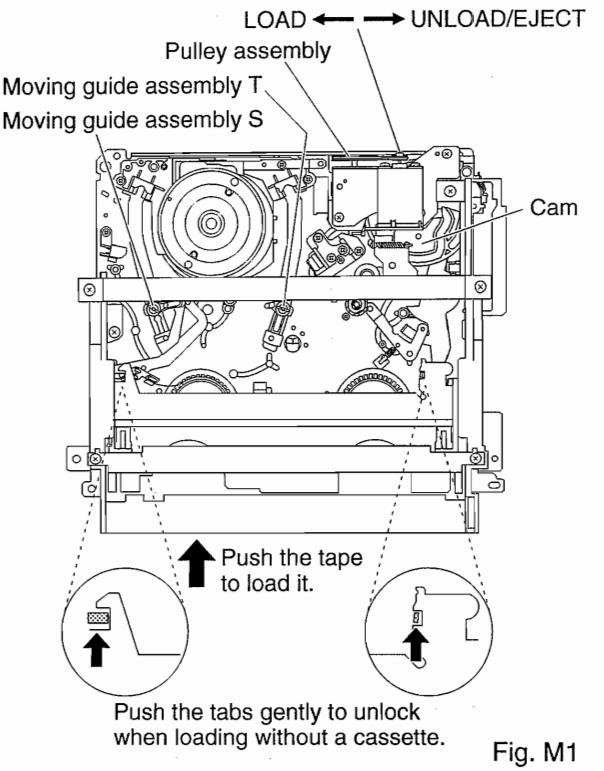


Fig. M1

Bottom View

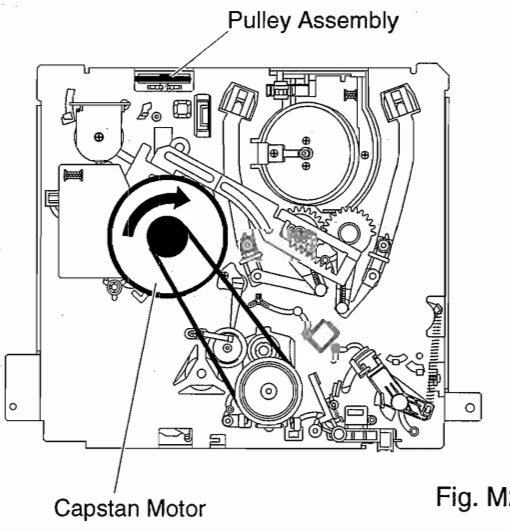


Fig. M2

1. Tape Interchangeability Alignment

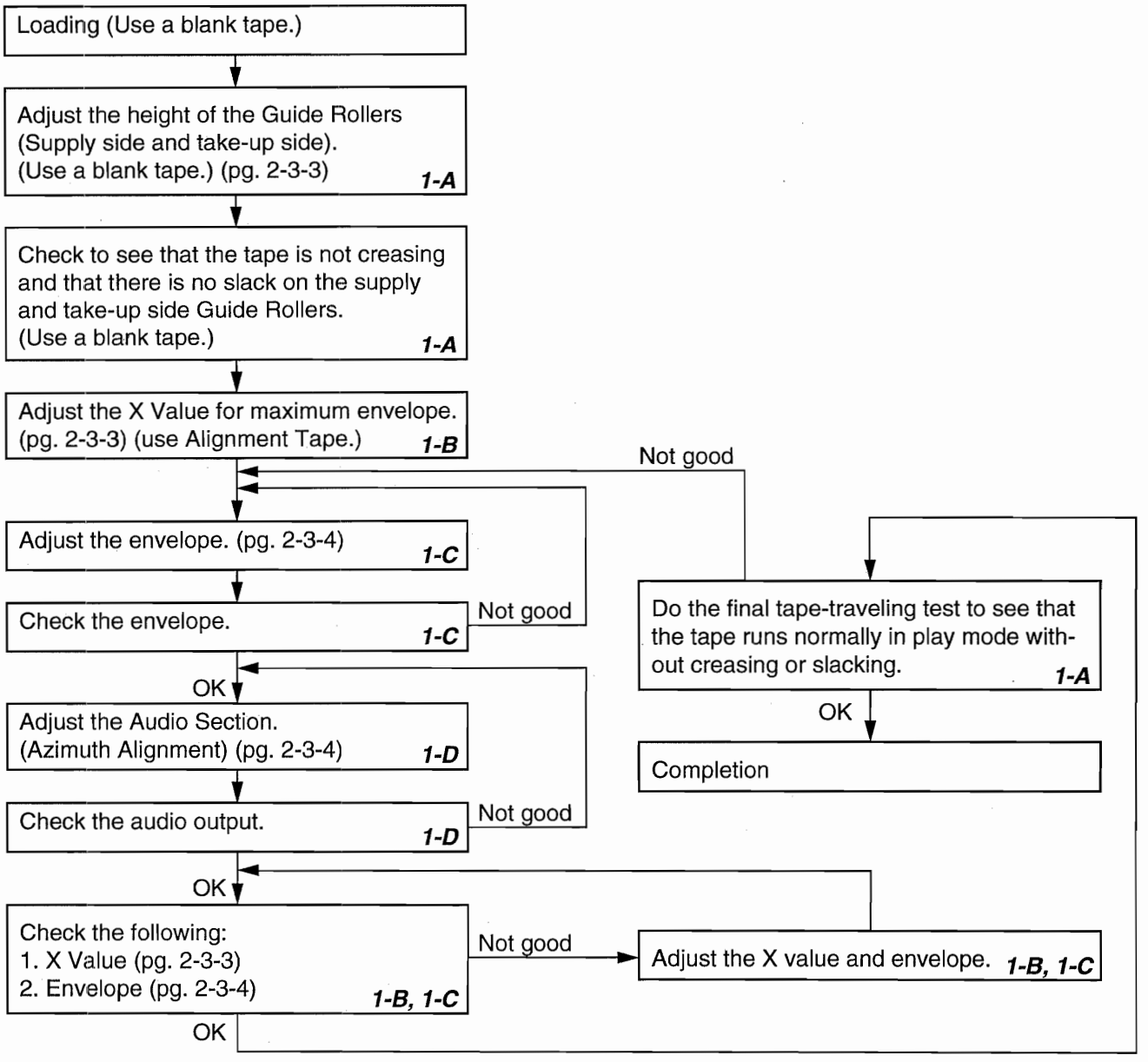
Note: To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8N)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling


Loading (Use a blank tape.)
Adjust the height of the Guide Rollers (Supply side and take-up side). (Use a blank tape.) (pg. 2-3-3) 1-A
Check to see that the tape is not creasing and that there is no slack on the supply and take-up side Guide Rollers. (Use a blank tape.) 1-A
Adjust the X Value for maximum envelope. (pg. 2-3-3) (use Alignment Tape.) 1-B
Not good
Adjust the envelope. (pg. 2-3-4) 1-C
Check the envelope. 1-C
Not good
OK
Adjust the Audio Section. (Azimuth Alignment) (pg. 2-3-4) 1-D
Check the audio output. 1-D
Not good
OK
Check the following:
1. X Value (pg. 2-3-3)
2. Envelope (pg. 2-3-4) 1-B, 1-C
Not good
Adjust the X value and envelope. 1-B, 1-C
OK
Do the final tape-traveling test to see that the tape runs normally in play mode without creasing or slacking. 1-A
OK
Completion

1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Play back a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)
   Note: Beneath each Guide Roller, there is a small screw. (Refer to Fig. M5.) This screw works to apply adequate torque to the shaft of each Guide Roller so that the Guide Roller turns properly. Even when adjusting the height of the Guide Roller(s), do not touch these two small screws.
3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

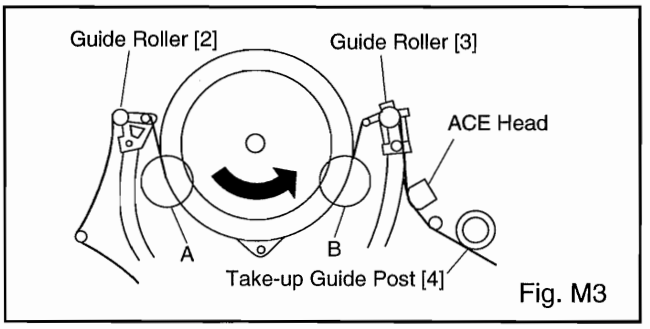


Fig. M3

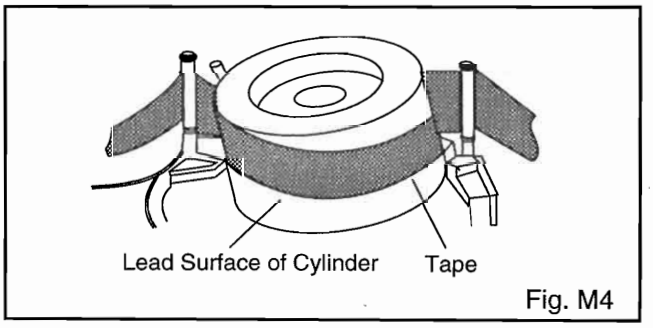


Fig. M4

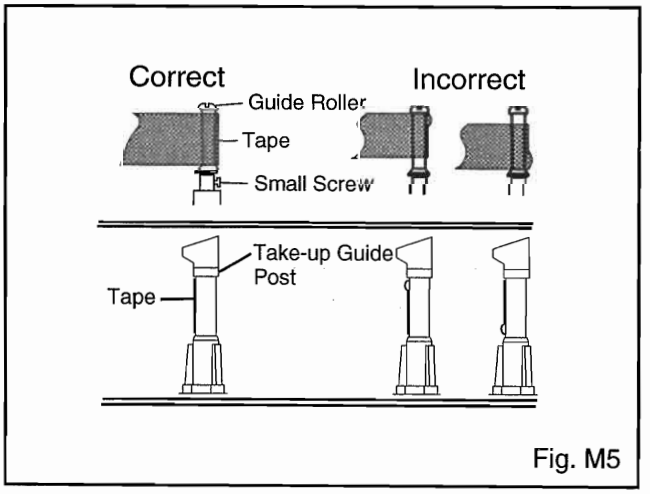


Fig. M5

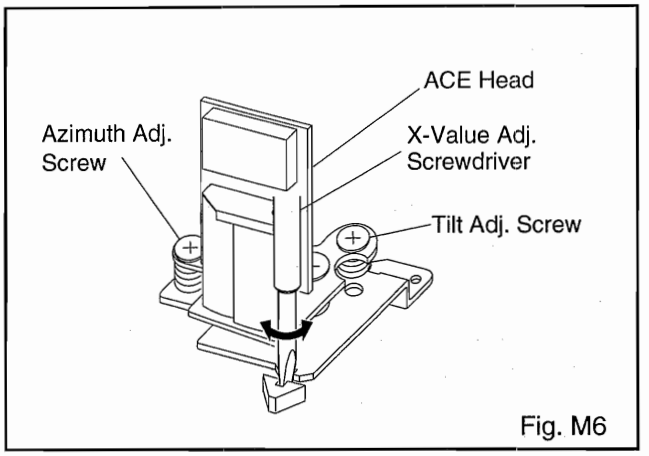


Fig. M6

1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) and TP504 (CTL) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Play back the Gray Scale of the Alignment Tape (FL8N) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing CH UP and DOWN buttons on VCR simultaneously. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)
5. Press CH UP button on VCR until CTL waveform is shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press CH DOWN button on VCR until CTL waveform is shifted from its original position (not the position achieved in step 5 of just above, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing CH UP and DOWN buttons on VCR simultaneously.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Play back the Gray Scale on the Alignment Tape (FL8N). Set the Tracking Control Circuit to the center position by pressing both CH UP and DOWN buttons on VCR simultaneously. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possibile. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig.M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the Tracking Control Up or Down buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes UP to achieve 1/2 level of envelope should match the number of pushes DOWN from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the alignment tape (FL8N) and confirm that the audio signal output level is 8 kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Dropping envelope level at the beginning of track.

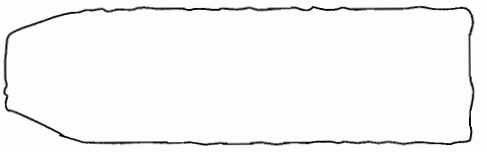


Fig. M7

Dropping envelope level at the end of track.

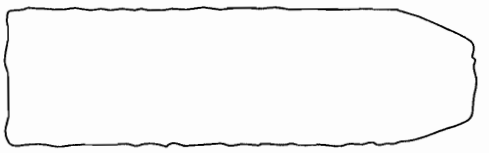


Fig. M8

Envelope is adjusted properly. (No envelope drop)

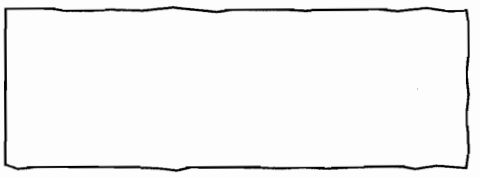


Fig. M9

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Main Mechanism

Before following the procedures described below, be sure to:

1. Remove the deck assembly from the cabinet.
   (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-6-1.)
2. Remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.)
3. First remove Step/Loc. No. [40], and start to remove other parts. (See Fig. DM1.)
4. Before Step/Loc. No. [2] and [9] first remove ACH-9A, ACH-9B, VH Connector 4A, and VH Connector 4B. (See Fig. DM2.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [38] and [39] in Fig. DM3 on page 2-4-4. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Shield Plate	T	DM1	2(S-2)	
[2]	[2]	Loading Motor Assembly	T	DM2 DM3 DM5 DM6	2(S-3), Loading Belt	
[3]	[2]	Motor Holder	T	DM3 DM5	2(S-4)	
[4]	[2]	Cassette Drive Lever Assembly	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[5]	[2]	Pinch Roller Assembly	T	DM3 DM5	(C-1)	Refer to Alignment Sec. Pg. 2-4-10
[6]	[6]	Mode SW CBA	B	DM4 DM5	(S-5), Desolder	
[7]	[2]	Cam	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[8]	[2]	Pulley Assembly	T	DM3 DM6	(W-1), Loading Belt	(+)
[9]	[9]	Cylinder Assembly	T	DM2 DM3 DM7	4(S-6), *VH Connectors 4A and 4B, Deck Grounding Plate	
[10]	[10]	FE Head	T	DM3 DM7	(S-7)	
[11]	[11]	ACE Head	T	DM2 DM3 DM8	2(S-8)	
[12]	[12]	Tape Guide Assembly	T	DM3 DM8	*(P-1), *(L-1)	
[13]	[12]	Capstan Motor	B	DM4 DM9 DM16	3(S-9), Capstan Belt, *Mode SW	
[14]	[14]	Tension Lever Assembly	T	DM3 DM10	*(L-2), *(L-3), *(P-2)	
[15]	[14]	M Brake S Assembly	T	DM3 DM10	*(L-4)	
[16]	[16]	Rec Arm	B	DM4 DM11	*(L-5)	
[17]	[17]	BT Arm	B	DM4 DM10 DM11	*(L-6), *(P-2)	
[18]	[17]	Holder Kick Arm	B	DM4 DM11	*(P-3)	
[19]	[17]	Tension Plate	B	DM4 DM11		
[20]	[17]	Mode Lever	T	DM3 DM12	*4(L-7), *(L-8), *Fixed Pin	

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[21]	[21]	Idler Assembly	T	DM3 DM13	*(L-9)	
[22]	[14]	S Brake Lever Assembly	T	DM3 DM13	*(P-4)	
[23]	[17]	M Brake T Assembly	T	DM3 DM13	*(P-5)	
[24]	[14]	Reel Base Assembly S	T	DM3 DM14	Poly Slider Washer	(+) Base has slots.
[25]	[17]	Reel Base Assembly T	T	DM3 DM14	Poly Slider Washer	(+)
[26]	[26]	M Gear	T	DM3 DM14	*2(L-10), (W-2)	
[27]	[2]	M Lever Holder	T	DM3 DM15		
[28]	[2]	Main Lever Assembly	T	DM3 DM15		
[29]	[29]	Clutch Assembly	B	DM4 DM16	(C-2), (W-3), Capstan Belt	(+)
[30]	[29]	FF Arm	B	DM4 DM16	*2(L-11)	
[31]	[31]	Sensor Gear	B	DM4 DM17	(C-3)	
[32]	[32]	Prism T	B	DM4 DM17	(S-10)	
[33]	[33]	Prism	B	DM4 DM17	(S-11)	
[34]	[12]	Loading Lever Assembly	B	DM4 DM18	(S-12)	(+) Refer to Alignment Sec. Pg. 2-4-10
[35]	[34]	Loading Arm T Assembly	B	DM4 DM18	CS Ring	(+) Refer to Alignment Sec. Pg. 2-4-10
[36]	[34]	Loading Arm S Assembly	B	DM4 DM18	*(L-12), CS Ring	(+) Refer to Alignment Sec. Pg. 2-4-10
[37]	[37]	Spring Plate Assembly	B	DM4 DM19	(S-13)	Refer to Alignment Sec. Pg. 2-4-10
[38]	[2]	Moving Guide S Preparation	T	DM3 DM20	Slide to rear to remove	
[39]	[2]	Moving Guide T Preparation	T	DM3 DM20	Slide to rear to remove	
[40]	[40]	Deck Grounding Plate	T	DM1 DM3	(S-14)	
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

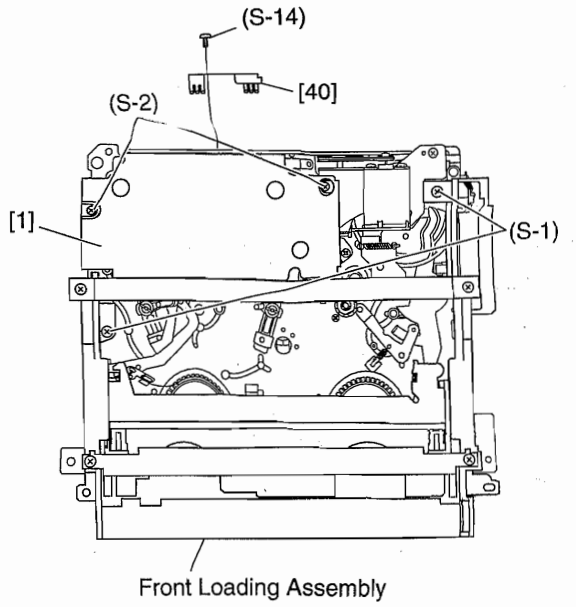
③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

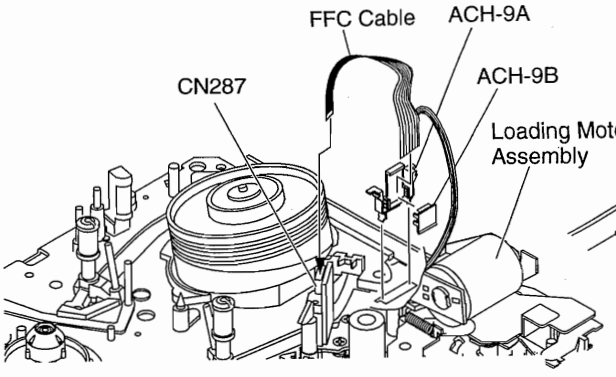
⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.



To remove Front Loading Assembly:
1. Remove 2 Screws; 2(S-1).
2. Lift Assembly up carefully.

Fig. DM1

Top View



Bottom View

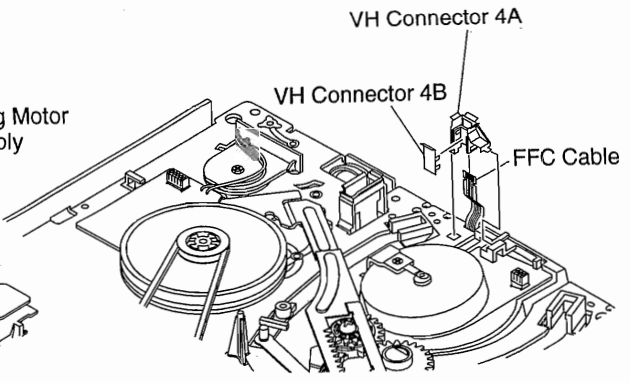


Fig. DM2

Top View

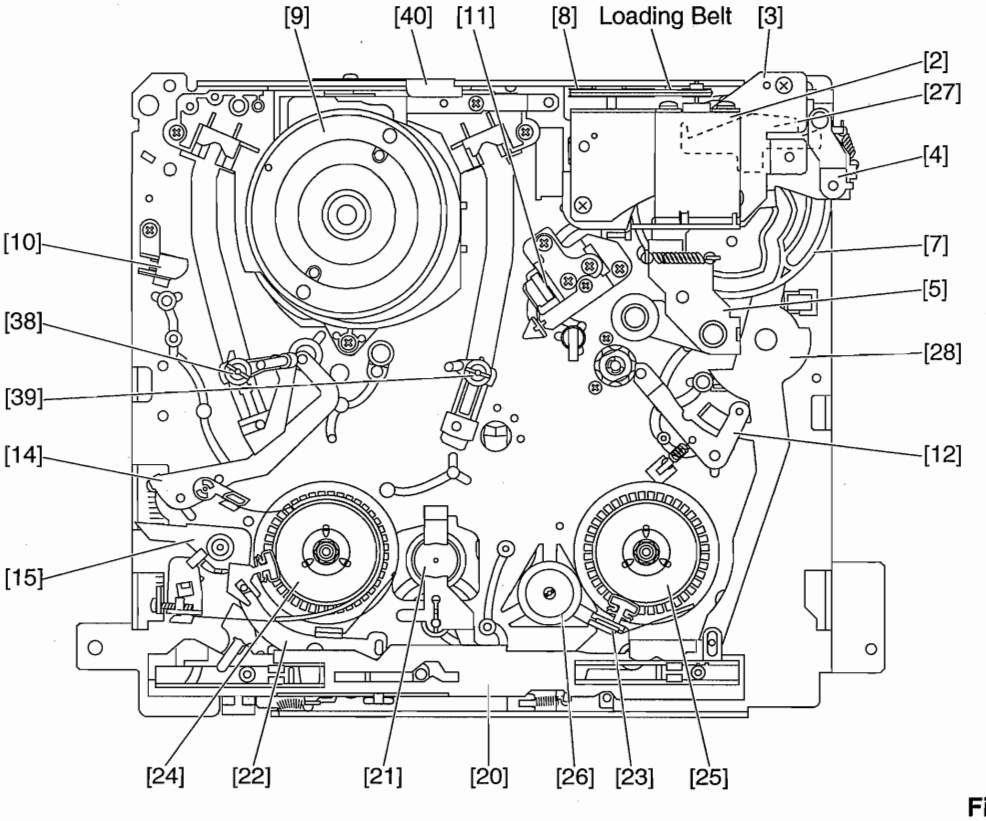


Fig. DM3

Bottom View

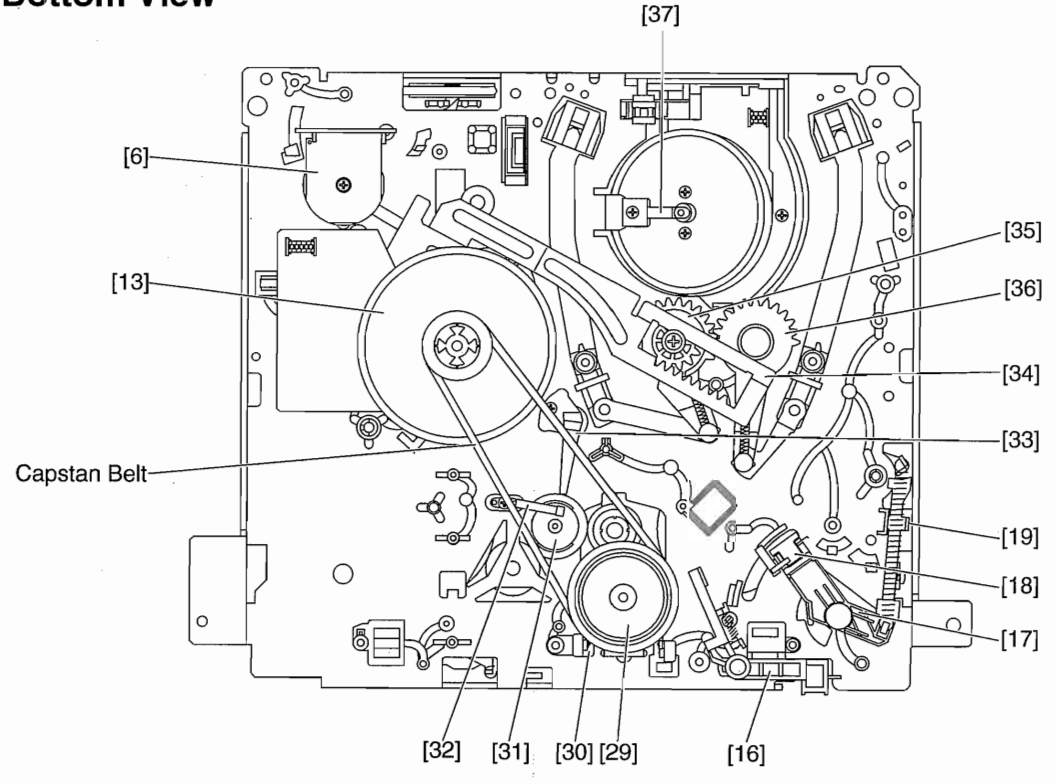


Fig. DM4

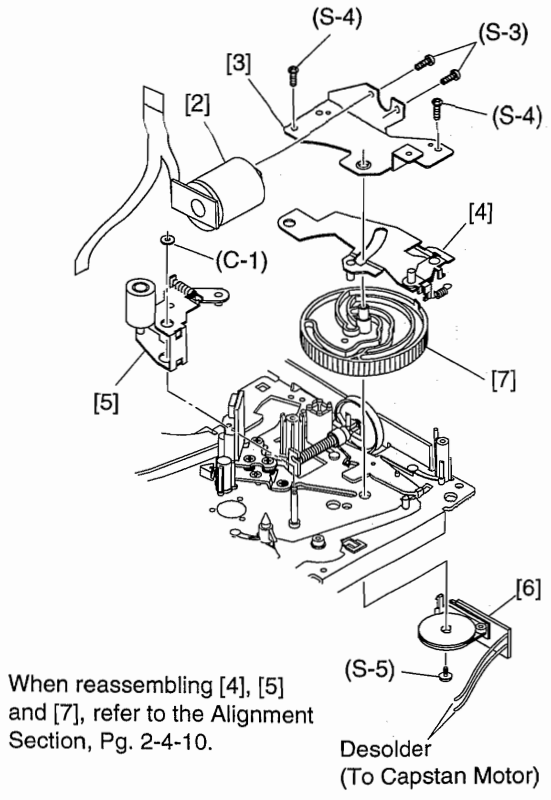


Fig. DM5

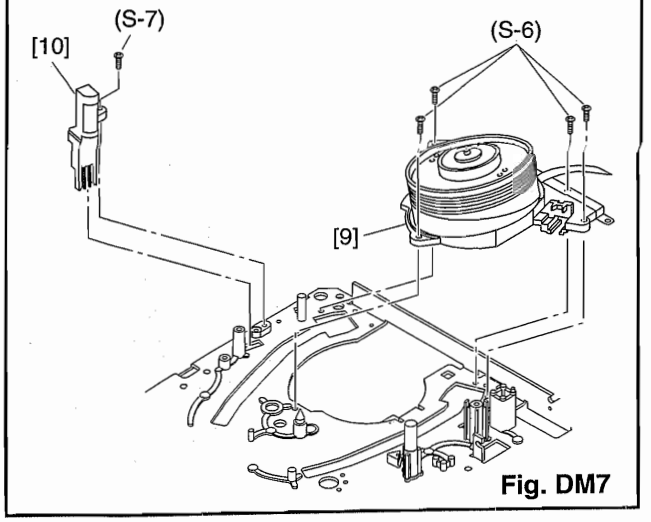


Fig. DM7

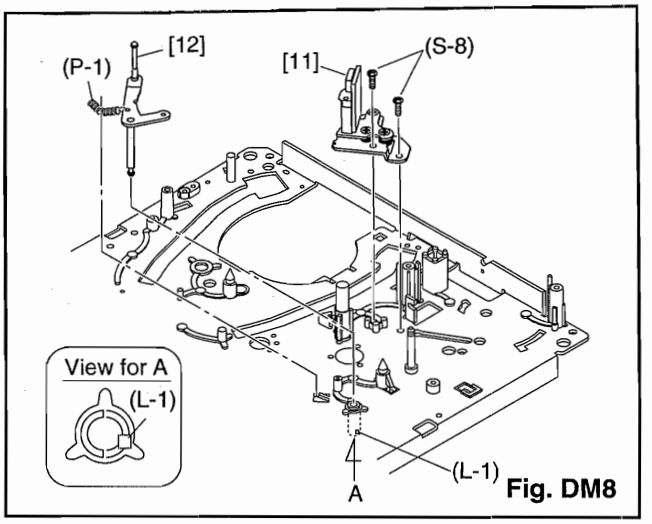


Fig. DM8

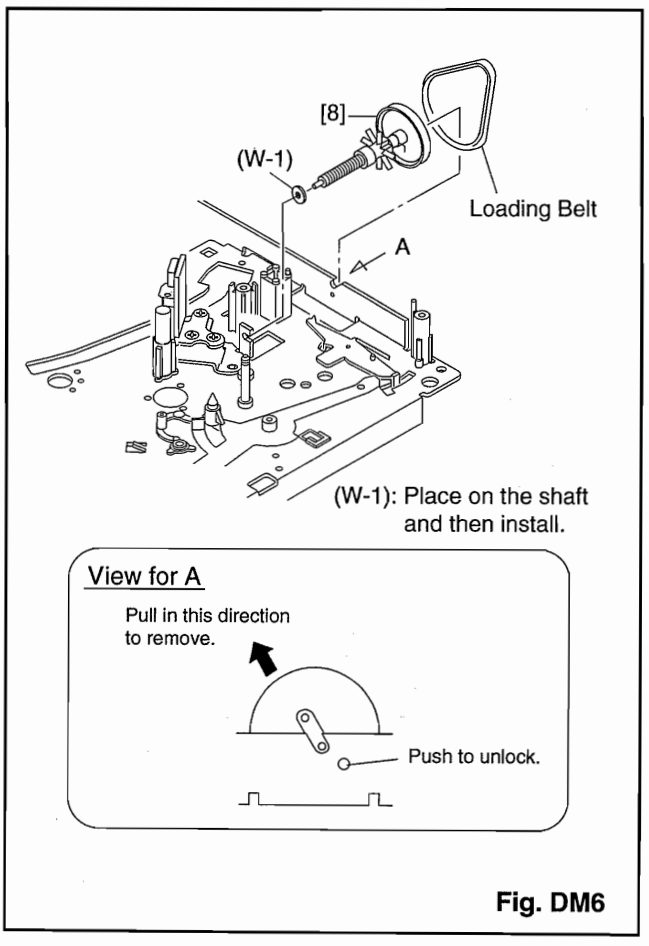


Fig. DM6

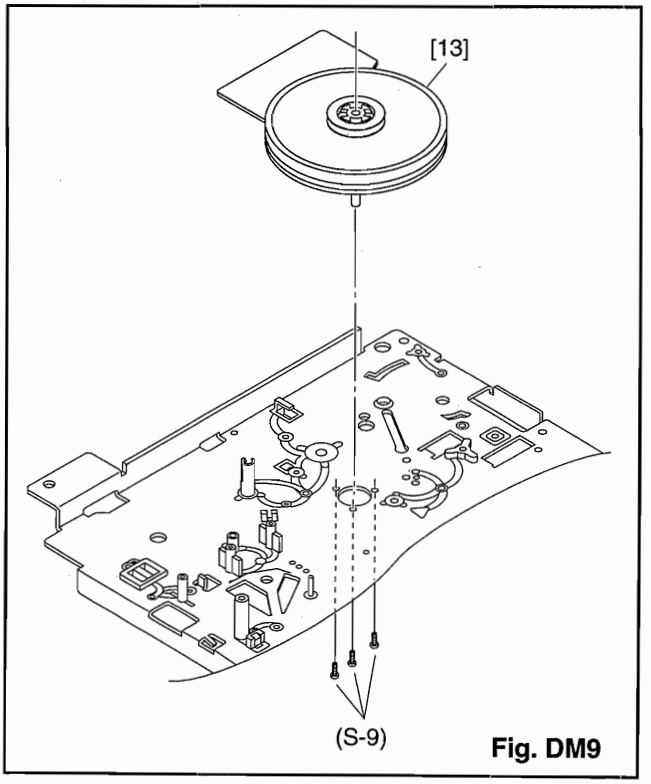


Fig. DM9

When reassembling, refer to the Alignment Section, Pg. 2-4-11.

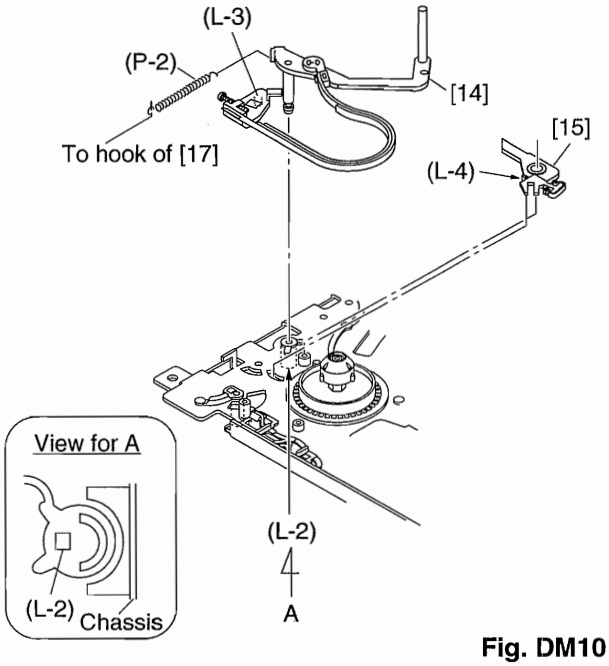


Fig. DM10

View for A

Reassembly [17], [18] and (P-3).

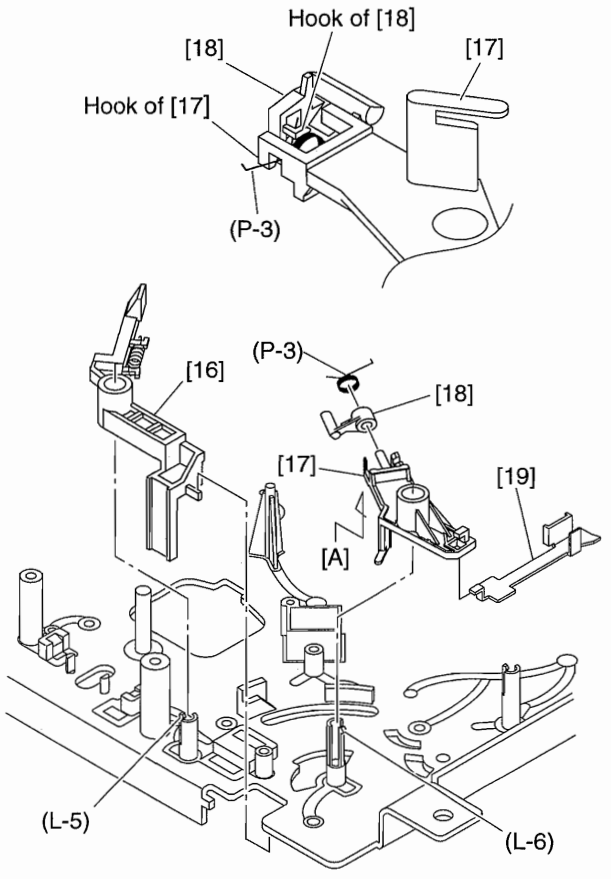
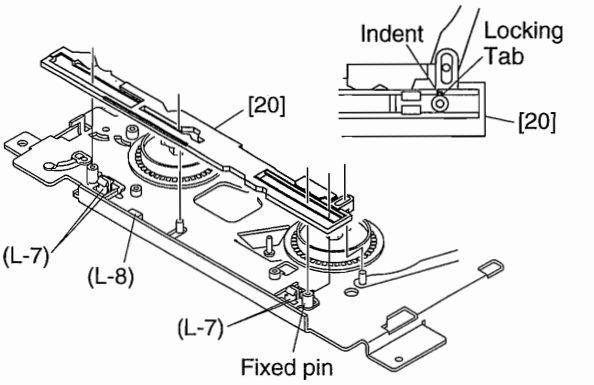


Fig. DM11

Turn [8] counterclockwise to move [20] to the right.
Align the indent of [20] with Locking Tab.



Position of Mode Lever when installed

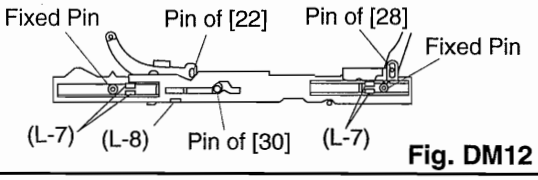


Fig. DM12

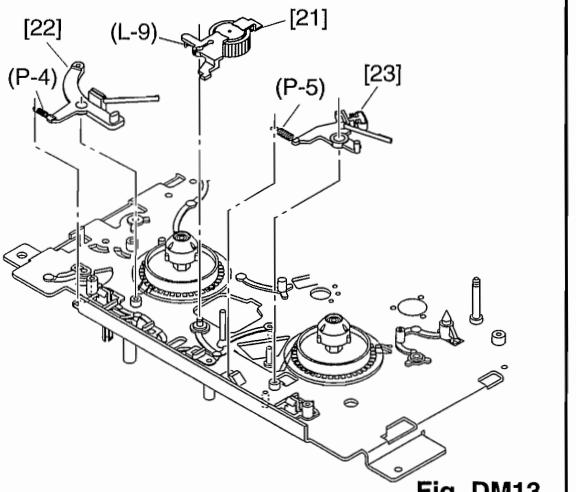


Fig. DM13

If the alignment height is not correct, it is acceptable to use one more Poly Slider Washer to raise the height. (Poly Slider Washer is 0.1 mm/0.004 inch in thickness.)

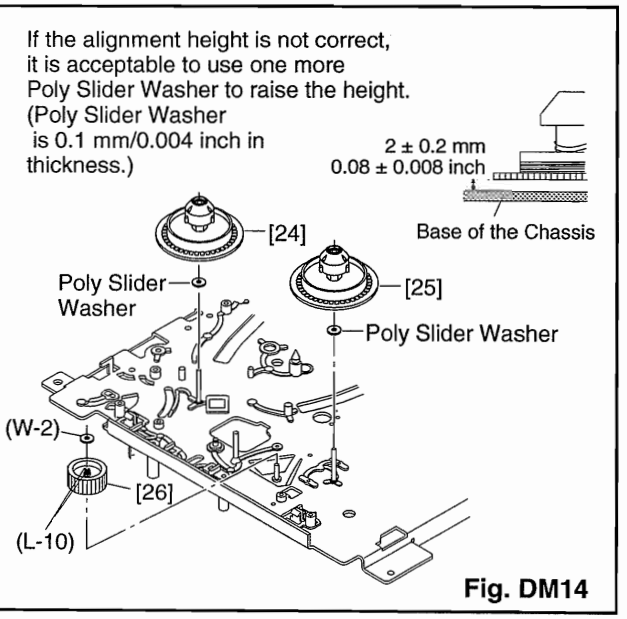


Fig. DM14

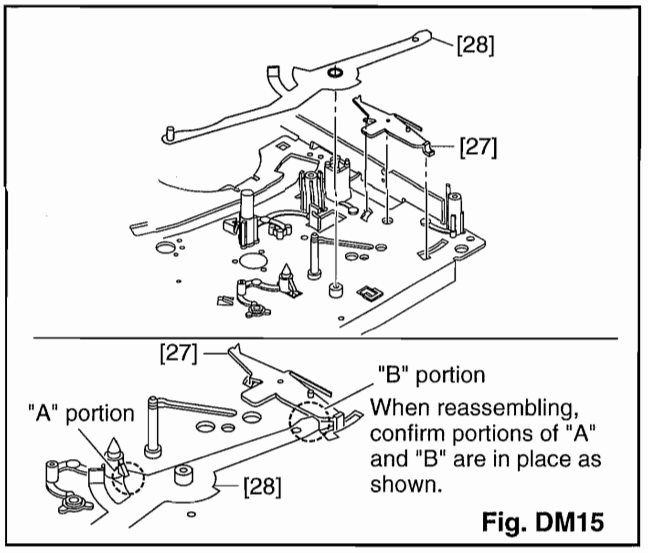


Fig. DM15

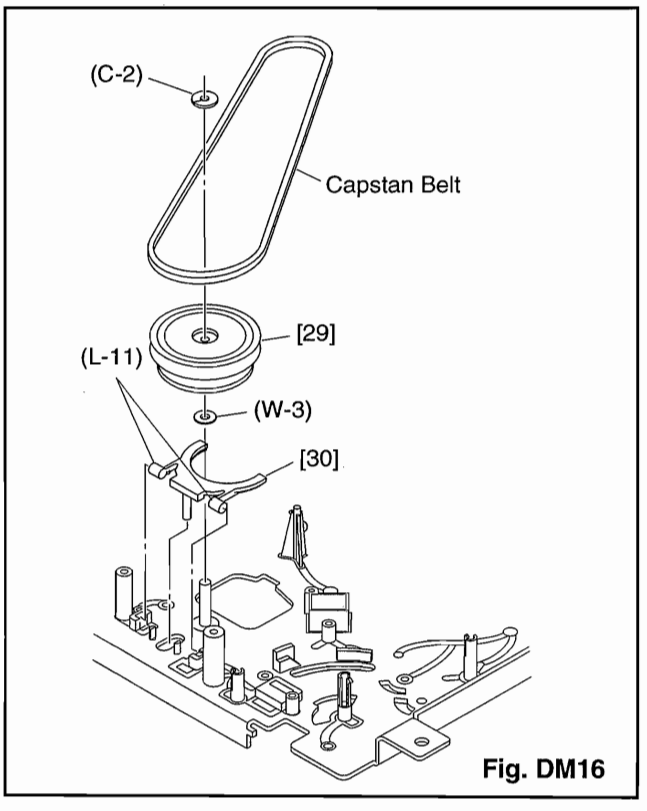


Fig. DM16

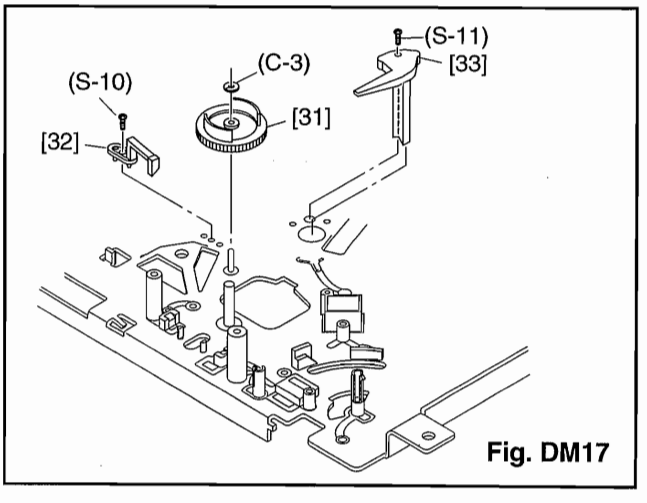


Fig. DM17

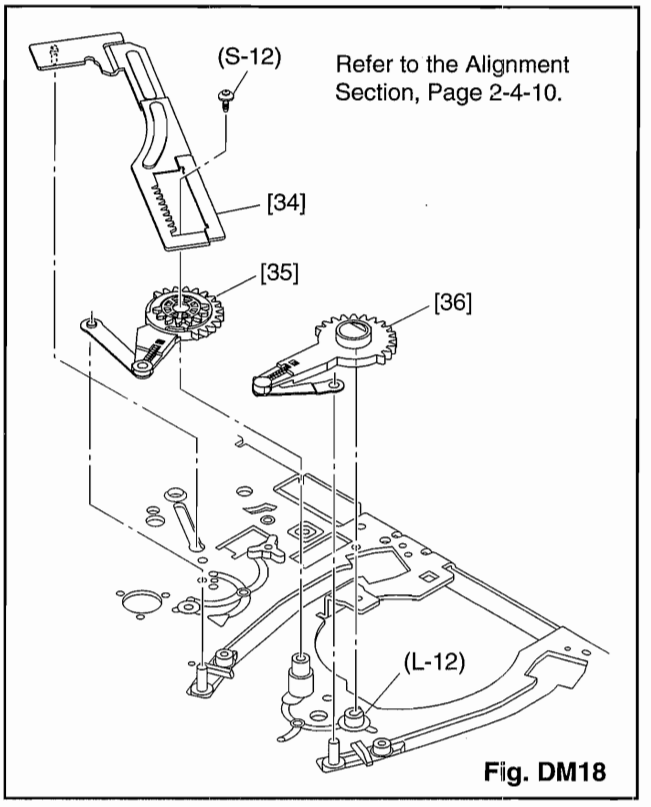


Fig. DM18

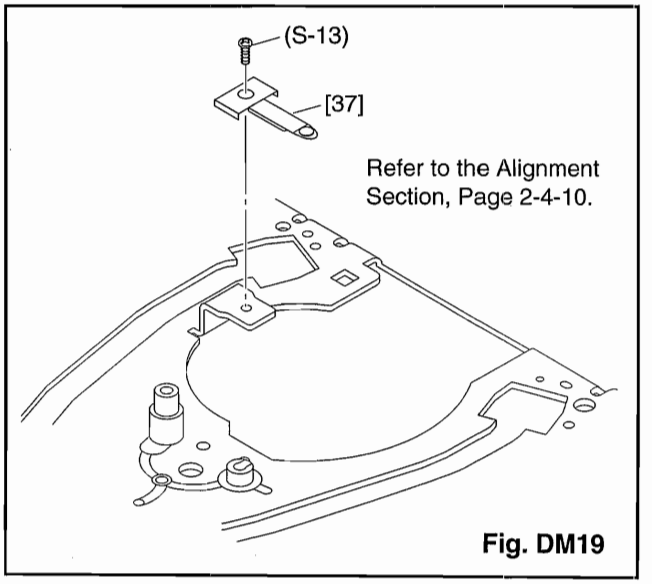


Fig. DM19

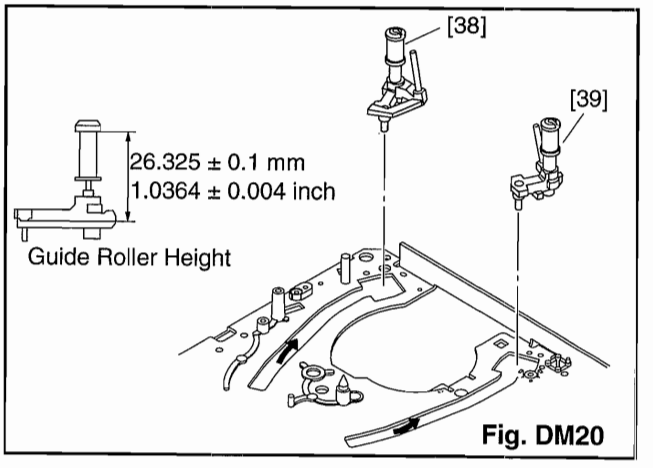


Fig. DM20

Front Loading Assembly

Before following the procedures described below, be sure to remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.) When reassembling, start with the unit in Cassette-in mode and follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
*[1]	[1]	Slider Gear	R (or L)	DM23 DM24	*2(L-1)	(+)
*[2]	[1]	Slider Gear	L (or R)	DM23 DM24	*2(L-2)	(+)
		Slider Shaft	T			Install in Eject position.
[3]	[1]	[3a] Front Guide [3b] Cassette Holder Assembly [3c] Guide Holder B [3d] Guide Holder F	T	DM21 DM22 DM23	*2(L-3), 4(S-1), 2(S-2), Eject Spring B	
		[3e] Cassette Guide R	R			(+)
		[3f] Cassette Guide L	L			(+)
[4]	[4]	Front Door Opener	R	DM21 DM22 DM23	*(L-4)	
[5]	[4]	Rack	R	DM21 DM22 DM23	*(L-5)	
[6]	[5]	Cassette Drive Gear	R	DM21 DM22 DM23	*(L-6), Cassette Drive Gear Spring	(+)
[7]	[7]	[7a] Mirror R [7b] Mirror L	R L	DM23		
[8]	[8]	LDG Plate	R	DM23	2(S-3)	
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.

*[1], *[2]: Slider Gear in Step [1] and that in Step [2] are identical. However, they are divided into two steps because, before reassembling Slider Shaft, one Slider Gear must be preinstalled at either end of Slider Shaft.

Before removing Parts [3], [4], [5], or [6], shift [3b] to Cassette-in position.

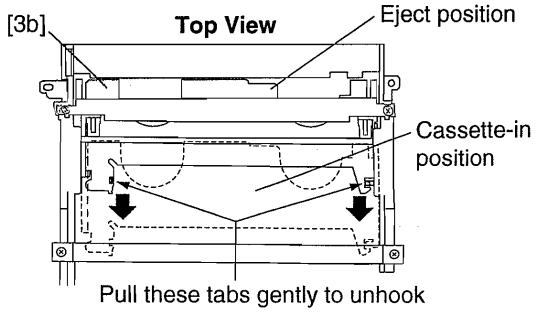


Fig. DM21

Install/remove in Cassette-in position to ensure that [3b] is in locked position.

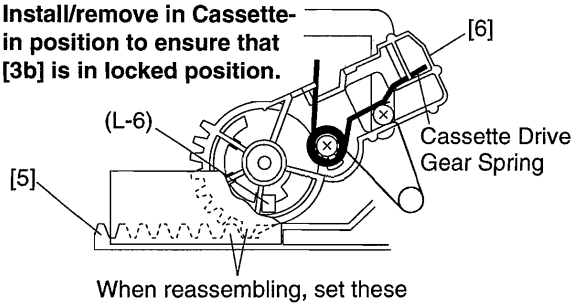
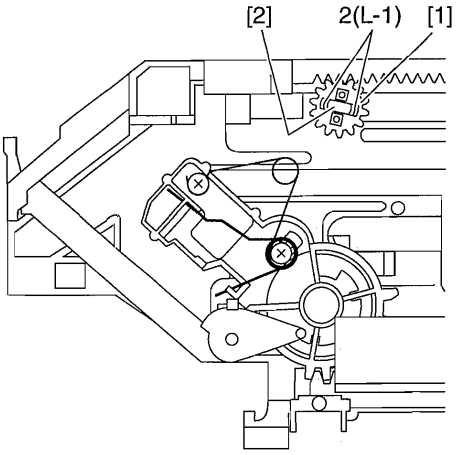


Fig. DM22

View before disassembling [1] and [2] (Installation of Slider Shaft and Slider Gear)



Install [1] and [2] in Eject position.
(When disassembling, [1] and [2] can be removed either in Eject position or Cassette-in position.)

- This figure shows where [1], [2] and other parts are in Eject position.

Fig. DM24

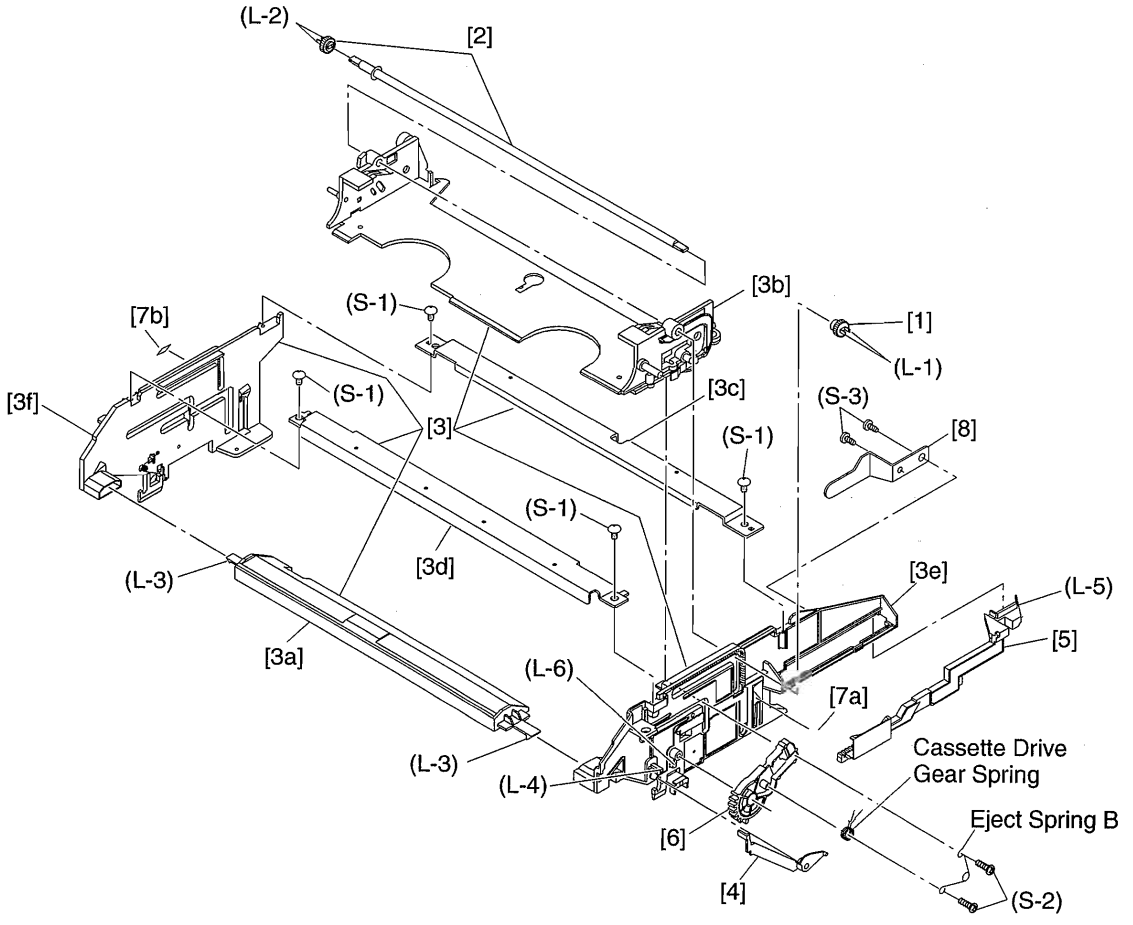


Fig. DM23

ALIGNMENT PROCEDURES OF MECHANISM

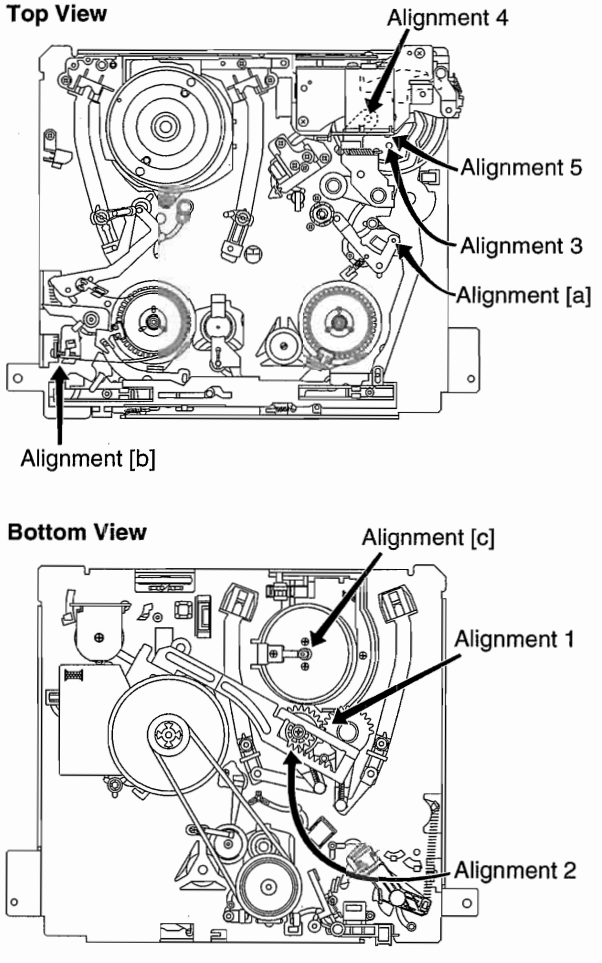
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment [a] through [c] can be done independently of any other alignment.

Fig. AL1

Alignment 1

Loading Arm, S and T Assembly

1. Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Loading Lever Assembly

1. Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Loading Lever Assembly. See Fig. AL2.

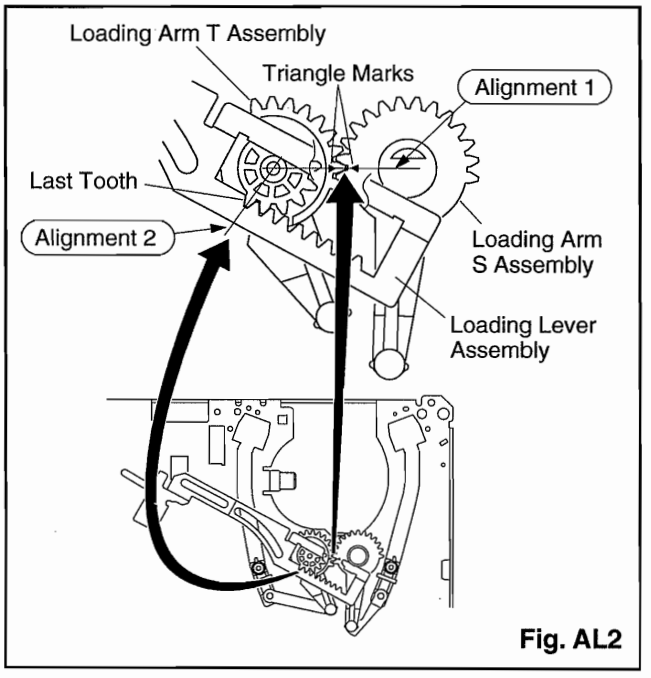


Fig. AL2

Alignment [a]

Tape Guide Assembly

1. Measurement of the black screw must be as specified in Fig. AL3.

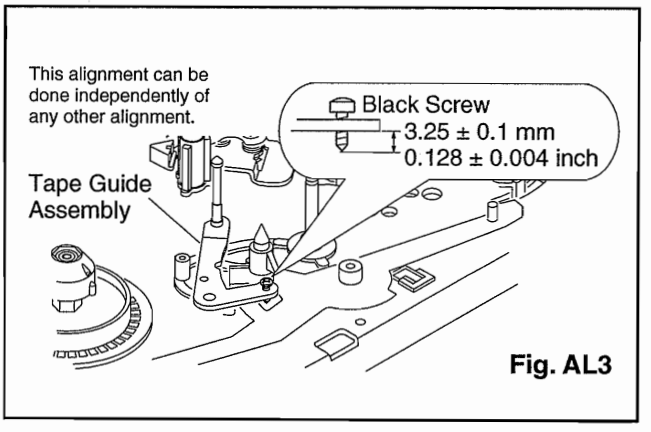

This alignment can be done independently of any other alignment.
Black Screw
3.25 ± 0.1 mm
0.128 ± 0.004 inch
Tape Guide Assembly

Fig. AL3

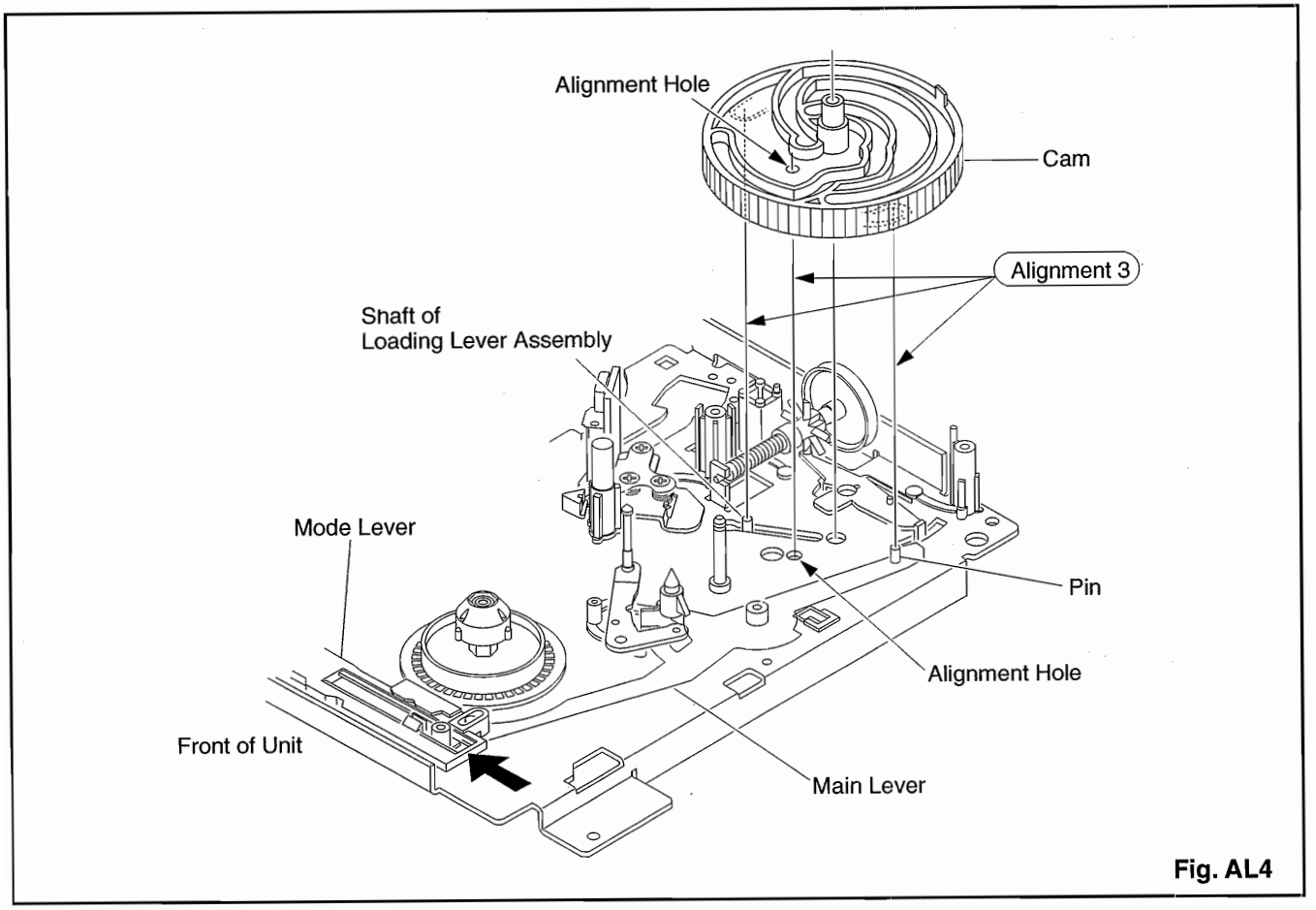


Fig. AL4

Alignment 3

Cam

1. Make sure that the mechanism is in Eject mode so that the shaft of Loading Lever Assembly is in the position shown in Fig. AL4.
2. Align the alignment hole of the Cam with the alignment hole of the base, holding the Cam just above the base.
3. Carefully keeping these two holes aligned, push Mode Lever in the direction of the arrow to install the Cam. The Mode Lever must be pushed to make the pin on the Main Lever fit in the proper groove in the lower Cam.
4. After installing the Cam, make sure that the alignment hole of the Cam is still aligned with the base hole and that the pin on the Main Lever and the shaft of the Loading Lever Assembly are inserted into the proper grooves of the lower Cam as specified in Fig. AL4.

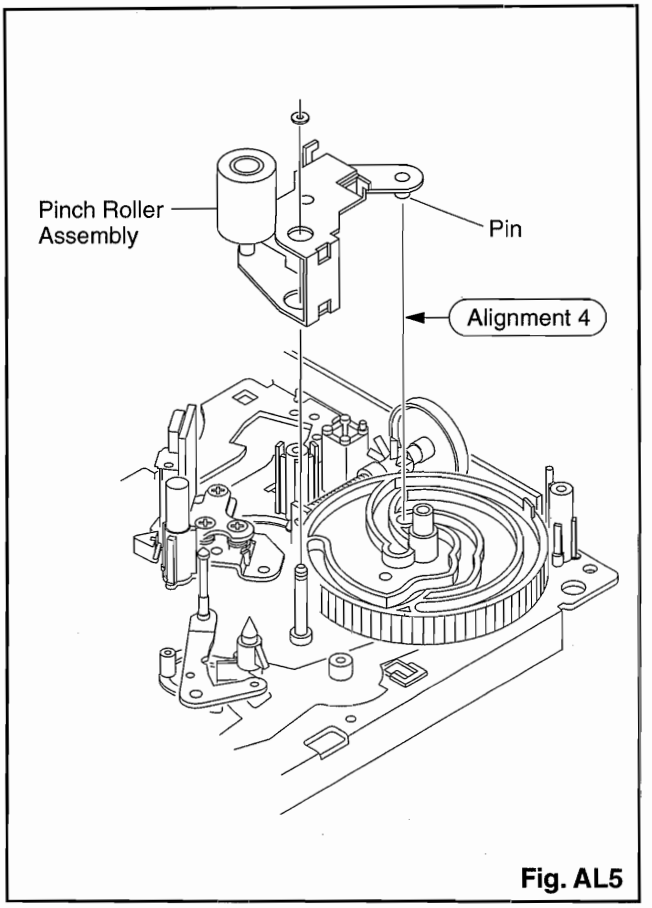


Fig. AL5

Alignment 4

Pinch Roller Assembly

1. Ensure that the pin of the Pinch Roller Arm Assembly is positioned in the end of the groove of the upper Cam as shown in Fig. AL5.

Alignment 5

Cassette Drive Lever Assembly

1. Ensure that the pin of the Cassette Drive Lever Assembly is positioned in the groove of the upper Cam and that the hole of that is positioned as shown in Fig. AL6. Then, make sure that the tab of the Cassette Drive Lever Assembly is within the tab of the Cam.

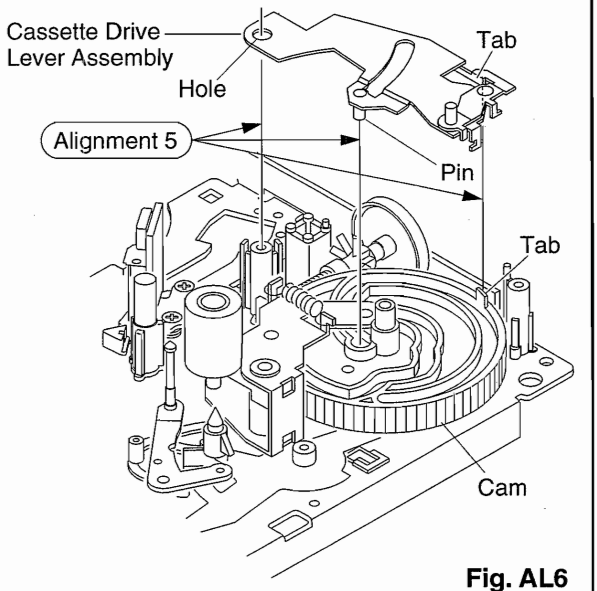


Fig. AL6

Alignment [b]

This alignment can be performed independently of any other alignment.

Band Brake Assembly

1. Ensure that Band Brake Assembly is positioned parallel to the chassis' notch as shown in Fig. AL7. This measurement can be made by eye.

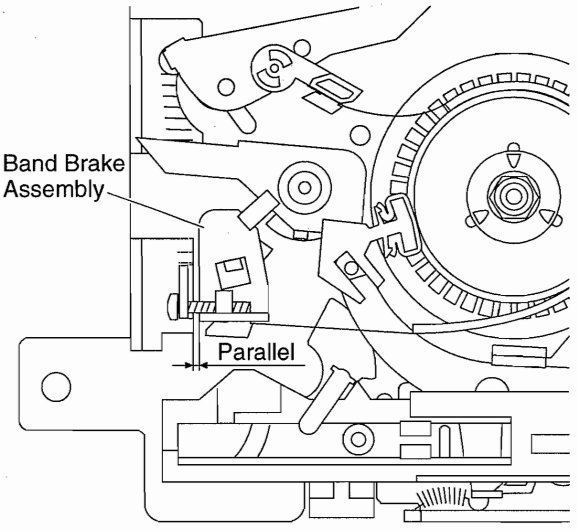


Fig. AL7

Alignment [c]

This alignment can be performed independently of any other alignment.

Ground Brush Assembly

1. Check to see if the Ground Brush Assembly is properly set in a position equal to or just less than 1mm (0.04 inch) (but never more than 1 mm or 0.04 inch), as measured from the center of the brush to the center of the Cylinder Shaft as shown in Fig. AL8.

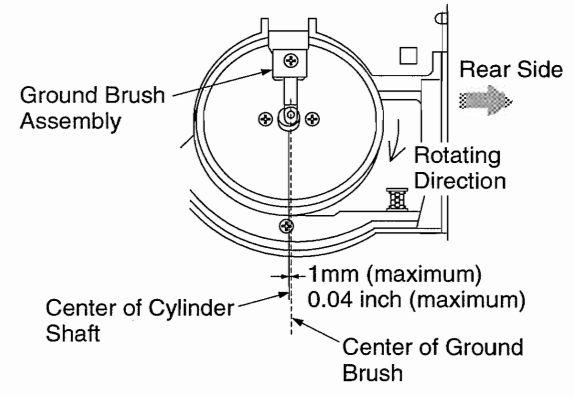


Fig. AL8

2. If this measurement exceeds 1mm (0.04 inch), loosen and refasten the screw of the Ground Brush Assembly. If this is not enough and further adjustment is necessary, loosen and refasten the three screws of Cylinder Assembly. These three screws are shown in Fig. DM8 in DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM (page 2-4-5).

Note: DO NOT install the Ground Brush Assembly in the opposite position (on the left side of the center of the Cylinder shaft), but always within a maximum of 1mm (0.04 inch) to the right side of the center of this shaft.

EXPLODED VIEWS AND PARTS LIST SECTION

9" COLOR TV/VCR COMBINATION

TVCR9G1
F9TRG1

Sec. 3: Exploded views and Parts List Section

- **Exploded views**
- **Parts List**

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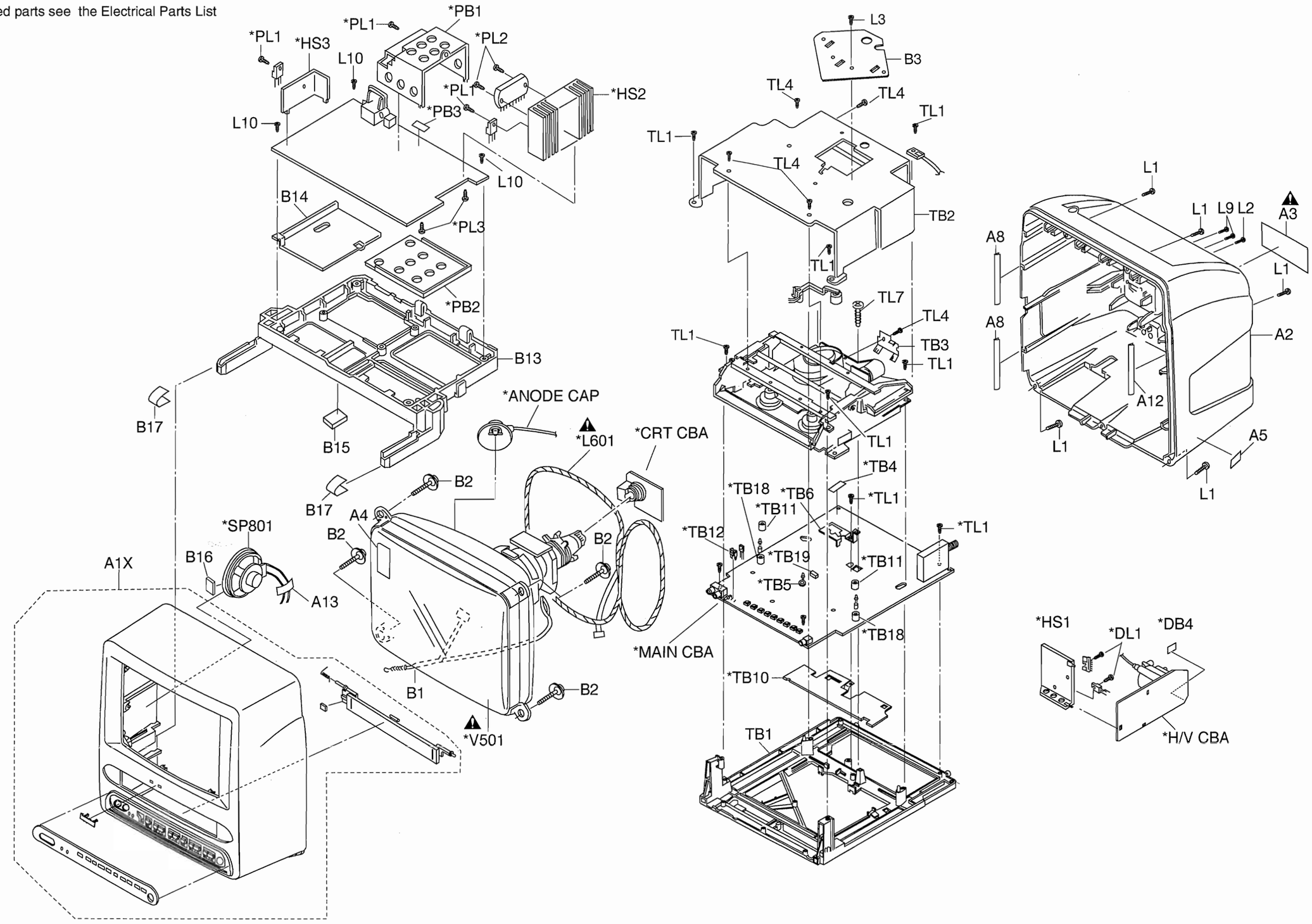
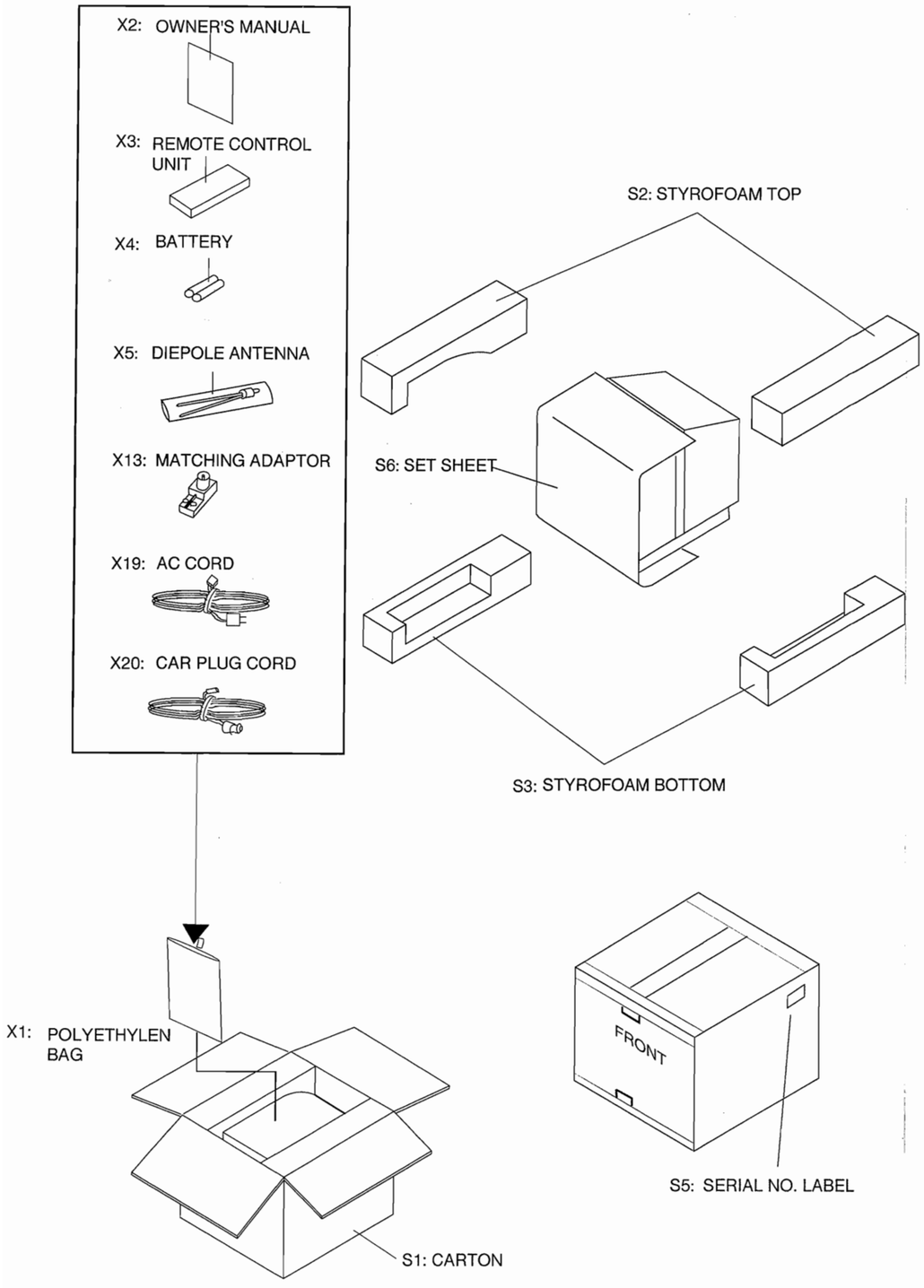
CABINET EXPLODED VIEW

*Marked parts see the Electrical Parts List

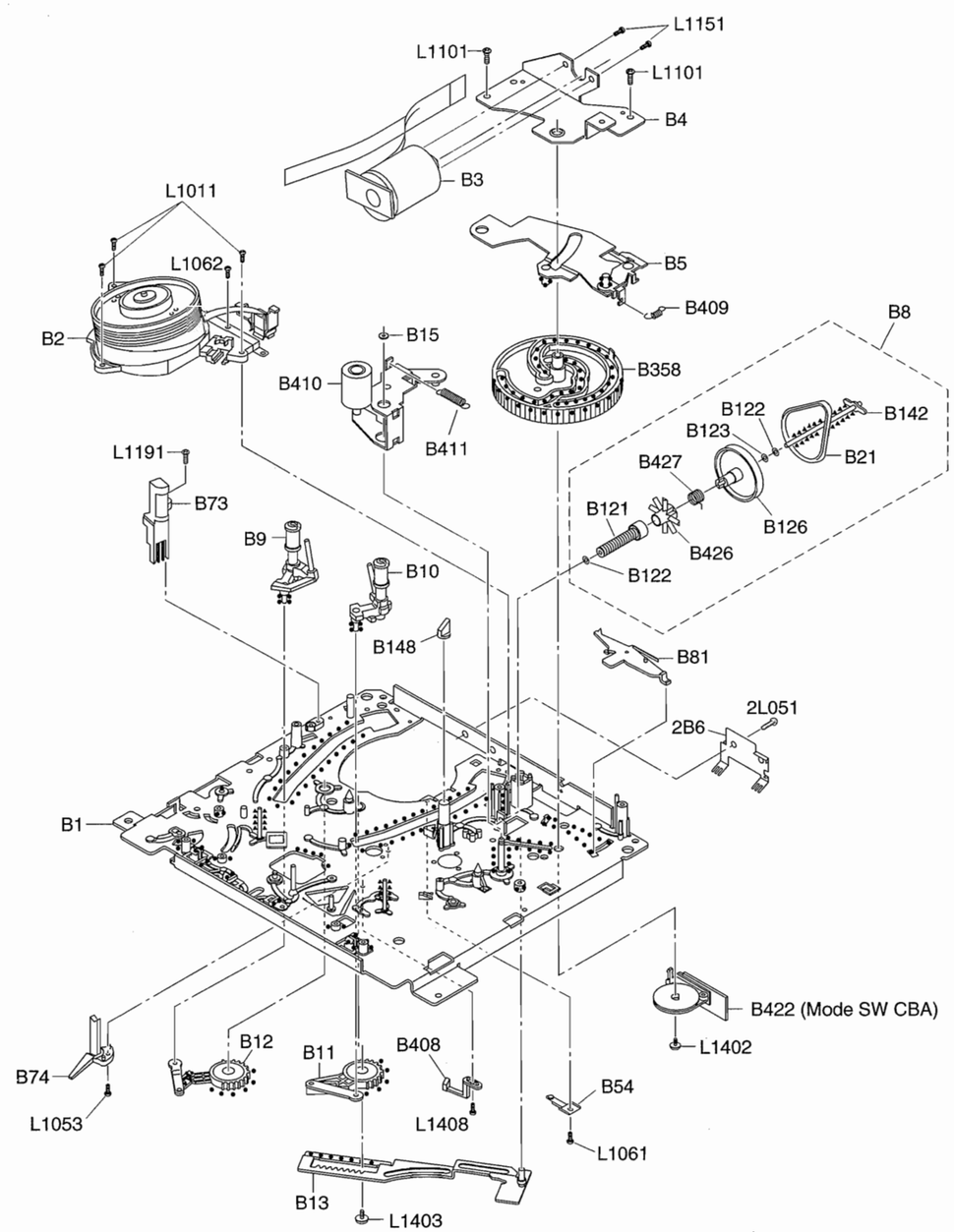


PACKING EXPLODED VIEW



Deck Mechanism View 1

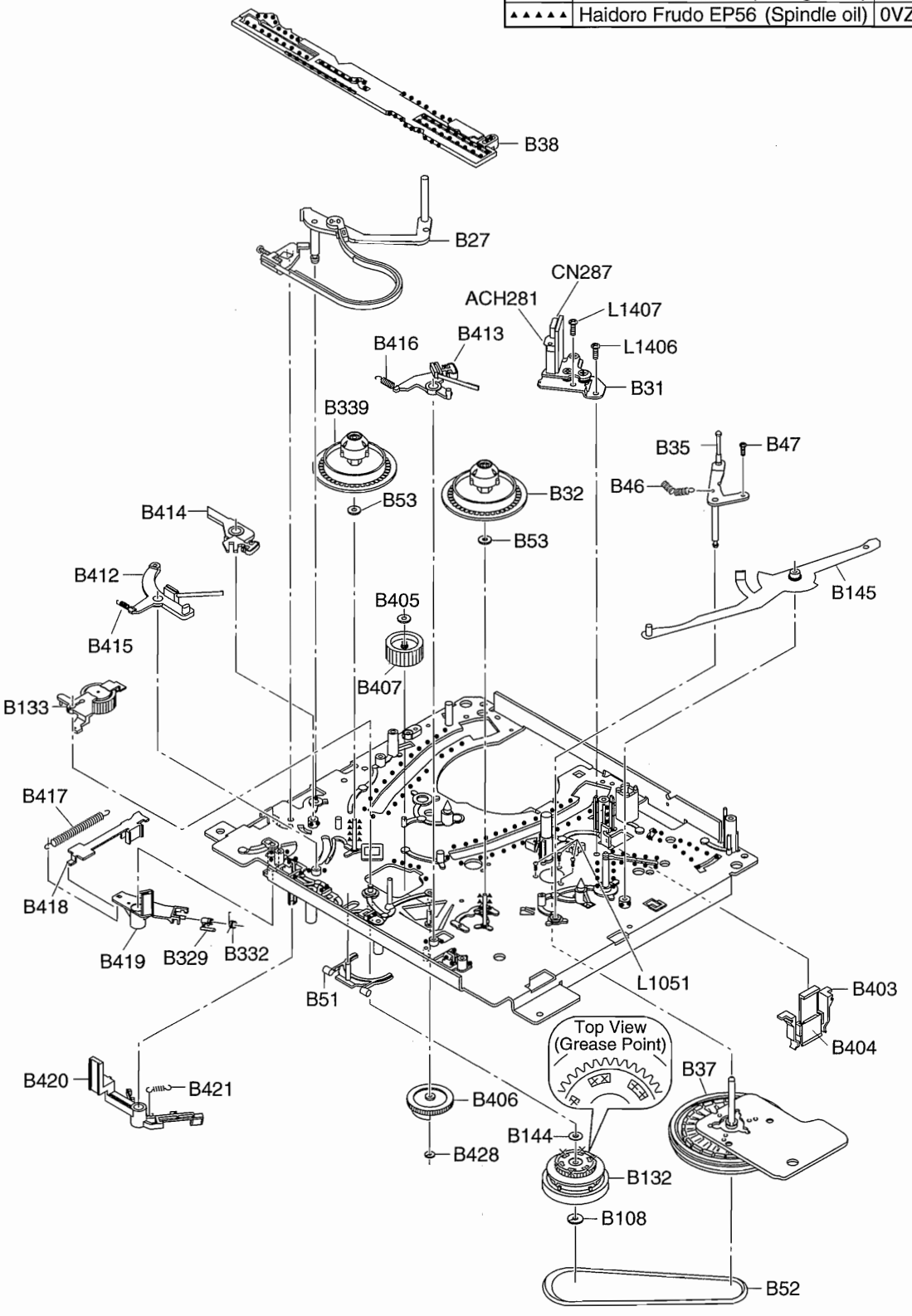
Mark	Description	Part No.
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068



Some Ref. Numbers are not in sequence.

Deck Mechanism View 2

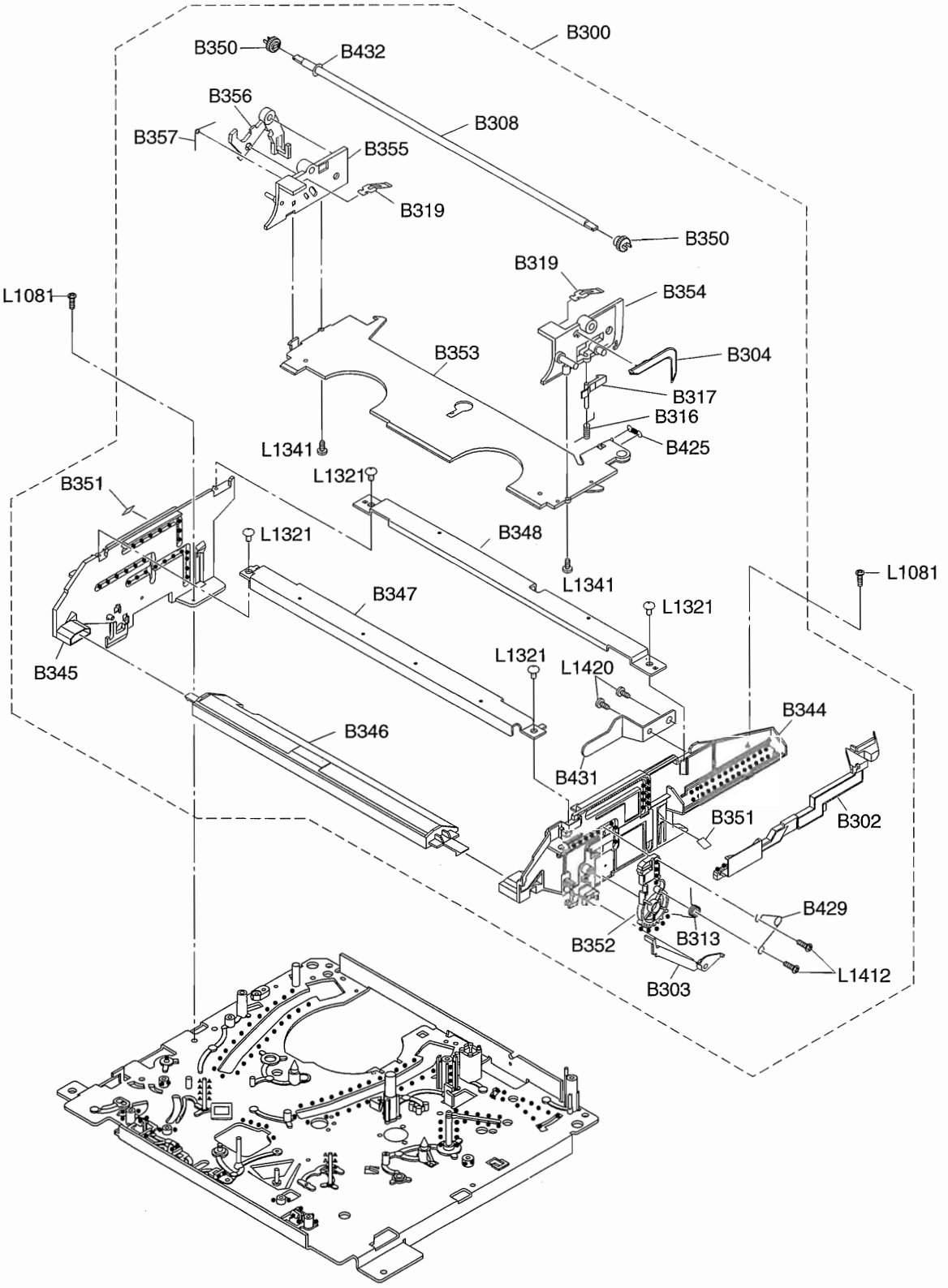
Mark	Description	Part No.
×××××	Sankohl FG-84M (White grease)	0VZZ00062
•••••	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description	Part No.
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSY [For Model TVCR9G1]	0EM200725
A1X	FRONT CABINET ASSY [For Model F9TRG1]	0EM200726
A 2	REAR CABINET	0EM000261
A 3 ⚠	RATING LABEL [For Model TVCR9G1]	0EM403676
A 3 ⚠	RATING LABEL [For Model F9TRG1]	0EM403681
A 4	POP LABEL [For Model TVCR9G1]	0EM403806
A 4	POP LABEL [For Model F9TRG1]	0EM403807
A 5	TELEPHONE NO. LABEL	0EM402173
A 8	CLOTH B0071V9:TS7346	24WE420
A13	CLOTH (A)	0EM401807
B 1	TENSION SPRING B0080B0:EM40808	26WH006
B 2	M5 CRT SCREW(B)	0VM403923
B 3	SHILDE PLATE(13)	0EM403745
B 13	POWER HOLDER	0EM100811
B 14	SHILDE PLATE(P)	0EM403655
B 15	INSULATION SHEET	0EM403921
B 16	CLOTH(10X15XT1.0)	0EM403762
B 17	CLOTH	24WE420
L 1	SCREW P-TIGHT 4X18 BIND HEAD+	GBMP4180
L 2	SCREW TAPPING 4X14 BIND HEAD+	DBM14140
L 3	SCREW S-TIGHT 3X4 BIND HEAD+	GBMS3040
L 9	SCREW P-TIGHT 3X10 BIND HEAD+	GBKP3100
L 10	SCREW P-TIGHT 3X10 BIND HEAD+	GBMP3100
S 1	CARTON [For Model TVCR9G1]	0EM403647
S 1	CARTON [For Model F9TRG1]	0EM403682
S 2	STYROFOAM TOP ASSY	0EM403642
S 3	STYROFOAM BOTTOM	0EM000267
S 4	SERIAL NO. LABEL [For Model TVCR9G1]	0EM403677
S 4	SERIAL NO. LABEL [For Model F9TRG1]	0EM403683
S 6	SET SHEET	0EM401153
TB 1	TRAY CHASSIS	0EM000262
TB 2	TOP SHIELD	0EM100816
TB 3	DECK SHIELD	0EM403738
TL 1	SCREW P-TIGHT 3X10 BIND HEAD+	GBMP3100
TL 4	SCREW S-TIGHT 3X4 BIND HEAD+	GBMS3040
TL 7	SCREW P-TIGHT 3X20 BIND HEAD+	GBKP3200
X 1	POLYETHYLENE BAG	Z223380
X 2 ⚠	OWNER'S MANUAL [For Model TVCR9G1]	0EMN01220
X 2 ⚠	OWNER'S MANUAL [For Model F9TRG1]	0EMN01221
X 3	REMOTE CONTROL UNIT 512/ERC001/N0200UD	N0200UD
X 4	DRY BATTERY UM-3(K) 2PCS PACK	1813020
	DRY BATTERY R6P UM3	XB0M451GH001
	DRY BATTERY R6 UM3 1015 M15P	XB0M451GW001
X 5	DIPOLE ANTENNA or	0EMN00723
	DIPOLE ANTENNA	0EMN01183
X 13	MATCHING ADAPTOR	1813641
	MATCHING ADAPTOR ICM-02N	UCPGANTPK004
	MATCHING ADAPTOR	1780258
X 19 ⚠	AC CORD LA-1664	WAV0182LW001
	AC CORD UC-502-J01	WAV0182NW001
	AC CORD PHP-201	WAV0182P8001
X 20	CAR PLUG CORD CW-C101	WPZ0202GA004

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (----------) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

Main (MMA) CBA

Ref. No.	Description	Part No.
	MAIN (MMA) CBA Consists of the following	0ESA02030
	CAPACITORS	
C 001	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 002	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 003	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 004	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 005	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C 006	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 007	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 012	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 013	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 031	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 032	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 033	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 034	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 101	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 102	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C 105	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 110	ELECTROLYTIC CAP. 0.1μF/50V M	CE1JMASDL0R1
C 111	CHIP CERAMIC CAP. B K 560pF/50V or	CHE1JKB0B561
	CERAMIC CAP. (AX) B K 560pF/50V	CCA1JKT0B561
C 115	CHIP CERAMIC CAP. SL J 82pF/50V or	CHE1JJBSL820
	CERAMIC CAP. (AX) SL J 82pF/50V	CCA1JKT0B820
C 116	CHIP CERAMIC CAP. B K 470pF/50V or	CHE1JKB0B471
	CERAMIC CAP. (AX) B K 470pF/50V	CCA1JKT0B471
C 117	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 118	CHIP CERAMIC CAP. SL J 150pF/50V	CCA1JKT0B151
C 125	CERAMIC CAP.(AX) B K 180pF/50V	CCA1JKT0B181
C 126	CHIP CERAMIC CAP. SL J 330pF/50V or	CHE1JJBSL331
	CERAMIC CAP. (AX) SL J 330pF/50V	CCA1JKT0B331
C 131	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 132	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 133	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 134	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 135	CHIP CERAMIC CAP. SL J 56pF/50V or	CHE1JJBSL560
	CERAMIC CAP. (AX) SL J 56pF/50V	CCA1JJTSL560
C 136	CHIP CERAMIC CAP. SL J 56pF/50V or	CHE1JJBSL560
	CERAMIC CAP. (AX) SL J 56pF/50V	CCA1JJTSL560
C 137	CHIP CERAMIC CAP. SL J 56pF/50V or	CHE1JJBSL560
	CERAMIC CAP. (AX) SL J 56pF/50V	CCA1JJTSL560
C 137	CHIP CERAMIC CAP. SL J 56pF/50V	CHE1JJBSL560
C 138	CERAMIC CAP.(AX) SL J 56pF/50V	CCA1JJTSL560
C 140	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 141	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 147	*MYLAR CAP. 0.001μF/50V J or	CMA1JJS00102
	MYLAR CAP. 0.001μF/50V K	2250102
C 148	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 149	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 151	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 152	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 153	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 154	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 155	ELECTROLYTIC CAP. 33μF/16V M	CE1CMASDL330
C 156	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C 160	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 161	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 162	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 169	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 201	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMASSL470
C 206	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 207	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 209	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 211	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMASSL0R1
C 212	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 213	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 214	CHIP CERAMIC CAP. B K 6800pF/50V or	CHE1JKB0B682
	CERAMIC CAP. (AX) B K 6800pF/50V	CDA1CMT0X682
C 215	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 216	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 217	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 218	CHIP CERAMIC CAP. F Z 0.022μF/50V or	CHE1JZB0F223
	CERAMIC CAP. (AX) F Z 0.022μF/50V	CDA1EZT0F223
C 219	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 220	PCB JUMPER D0.6-P5.0	JW5.0T
C 221	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
	CERAMIC CAP. (AX) B K 1000pF/50V	CDA1JKT0B102
C 222	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100

*Mylar is a registered trademark of E. I. Du Pont de Nemours and Company.

Ref. No.	Description	Part No.
C 223	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 224	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 229	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 230	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 231	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 232	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 234	CHIP CERAMIC CAP. CH D 10pF/50V or	CHE1JDBCH100
	CERAMIC CAP. (AX) CH J 10pF/50V	CCA1JJTCH100
C 236	CHIP CERAMIC CAP. CH J 15pF/50V or	CHE1JJBCH150
	CERAMIC CAP. (AX) CH J 15pF/50V	CCA1JJTCH150
C 237	CHIP CERAMIC CAP. CH J 20pF/50V or	CHE1JJBCH200
	CERAMIC CAP. (AX) CH J 20pF/50V	CCA1JJTCH200
C 238	CHIP CERAMIC CAP. CH J 20pF/50V or	CHE1JJBCH200
	CERAMIC CAP. (AX) CH J 20pF/50V	CCA1JJTCH200
C 239	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 240	ELECTROLYTIC CAP. 22μF/16V M LL H7 or	CA1C220SP018
	ELECTROLYTIC CAP. 22μF/16V M LL H7	CE1CMASHL220
C 243	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
	CERAMIC CAP. (AX) B K 1000pF/50V	CDA1JKT0B102
C 245	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 246	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 247	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 248	CHIP CERAMIC CAP. B K 4700pF/50V or	CHE1JKB0B472
	CERAMIC CAP. (AX) B K 4700pF/50V	CDA1CMT0X472
C 249	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 250	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 256	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 257	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZT0F104
C 258	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 259	CHIP CERAMIC CAP. SL J 220pF/50V or	CHE1JJBSL221
	CERAMIC CAP. (AX) SL J 220pF/50V	CCA1JKT0B221
C 264	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 265	CHIP CERAMIC CAP. SL J 100pF/50V or	CHE1JJBSL101
	CERAMIC CAP. (AX) SL J 100pF/50V	CCA1JKT0B101
C 266	ELECTROLYTIC CAP. 0.22μF/50V M H7	CE1JMASSLR22
C 269	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 274	ELECTROLYTIC CAP. 0.22μF/50V M H7	CE1JMASSLR22
C 279	CHIP CERAMIC CAP. F Z 0.022μF/50V or	CHE1JZB0F223
	CERAMIC CAP. (AX) F Z 0.022μF/50V	CDA1EZT0F223
C 290	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 292	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 294	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 295	CERAMIC CAP.(AX) F Z 0.022μF/25V	CDA1EZP0F223
C 296	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 297	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 299	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 301	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 302	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 307	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 308	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 309	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JJTSL330
C 310	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 311	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHE1JKB0B103
	CERAMIC CAP. (AX) B K 0.01μF/50V	CDA1CMT0Y103
C 312	CHIP CERAMIC CAP. B K 2200pF/50V or	CHE1JKB0B222
	CERAMIC CAP. (AX) B K 2200pF/50V	CDA1CKT0X222
C 313	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 314	ELECTROLYTIC CAP. 0.1μF/50V M	CE1JMASDL0R1
C 316	CHIP CERAMIC CAP. SL J 91pF/50V or	CHE1JJBSL910
	CERAMIC CAP. (AX) SL J 91pF/50V	CCA1JKT0B910
C 317	CHIP CERAMIC CAP. SL J 47pF/50V or	CHE1JJBSL470
C 318	CERAMIC CAP. (AX) SL J 120pF/50V	CCA1JKT0B121

Ref. No.	Description	Part No.
C 319	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 320	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 321	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 322	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C 323	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 324	ELECTROLYTIC CAP. 0.22μF/50V M	CE1JMASDLR22
C 325	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 326	CHIP CERAMIC CAP. CH J 15pF/50V or	CHE1JJBCH150
	CERAMIC CAP. (AX) CH J 15pF/50V	CCA1JJTCH150
C 327	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHE1JKB0B103
	CERAMIC CAP. (AX) B K 0.01μF/50V	CDA1CMT0Y103
C 328	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 330	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 331	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 332	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 333	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C 334	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 335	ELECTROLYTIC CAP. 0.22μF/50V M	CE1JMASDLR22
C 341	CERAMIC CAP.(AX) B K 470pF/50V	CCA1JKT0B471
C 350	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 351	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZT0F104
C 353	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 354	CERAMIC CAP.(AX) X K 3300pF/16V	CDA1CKT0X332
C 356	SEMICONDUCTOR CAP. YF Z 0.22μF/16V	CDB1CZS0F224
C 358	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 359	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 360	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C 361	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C 362	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 363	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 364	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 365	CHIP CERAMIC CAP. SL J 47pF/50V or	CHE1JJBSL470
	CERAMIC CAP. (AX) SL J 47pF/50V	CCA1JJTSL470
C 366	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 367	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 370	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 373	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 375	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 401	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 402	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 403	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 404	SEMICONDUCTOR CAP. SR K 0.1μF/25V	CDA1EKS0X104
C 405	PCB JUMPER D0.6-P5.0	JW5.0T
C 406	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 412	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 413	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 414	CHIP CERAMIC CAP. SL J 390pF/50V or	CHE1JJBSL391
	CERAMIC CAP. (AX) SL J 390pF/50V	CCA1JKT0B391
C 415	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 416	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 417	ELECTROLYTIC CAP. 47μF/6.3V M	CE0KMASDL470
C 418	CHIP CERAMIC CAP. F Z 0.022μF/50V or	CHE1JZB0F223
	CERAMIC CAP. (AX) F Z 0.022μF/50V	CDA1EZT0F223
C 419	CHIP CERAMIC CAP. SL J 180pF/50V	CHE1JJBSL181
	CERAMIC CAP. (AX) SL J 180pF/50V	CCA1JKT0B181

Ref. No.	Description	Part No.
C 420	CHIP CERAMIC CAP. SL J 22pF/50V or	CHE1JJBSL220
	CERAMIC CAP. (AX) SL J 22pF/50V	CCA1JJTSL220
C 421	CERAMIC CAP. (AX) SL J 68pF/50V	CCA1JJTSL680
C 422	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 424	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 425	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 426	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMASSL4R7
C 427	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 428	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C 429	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 430	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 432	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 433	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 434	CERAMIC CAP. X M 0.0056μF/16V	CDA1CMT0X562
C 435	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 436	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHE1JKB0B103
	CERAMIC CAP. (AX) B K 0.01μF/50V	CDA1CMT0Y103
C 437	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 438	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 441	CHIP CERAMIC CAP. SL J 68pF/50V or	CHE1JJBSL680
	CERAMIC CAP. (AX) SL J 68pF/50V	CCA1JJTSL680
C 444	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 446	PCB JUMPER D0.6-P5.0	JW5.0T
C 447	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 448	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 450	CHIP CERAMIC CAP. SL F 10pF/50V or	CHE1JFBSL100
	CERAMIC CAP. (AX) SL J 10pF/50V	CCA1JJTSL100
C 451	CHIP CERAMIC CAP. CH D 10pF/50V or	CHE1JDBCH100
	CERAMIC CAP. (AX) CH J 10pF/50V	CCA1JJTCH100
C 471	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 475	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 476	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 477	CHIP CERAMIC CAP. F Z 0.047μF/50V or	CHE1JZB0F473
	CERAMIC CAP. (AX) F Z 0.047μF/50V	CDA1CZT0F473
C 478	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 479	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHE1JZB0F104
	CERAMIC CAP. (AX) F Z 0.1μF/50V	CCA1JZT0F104
C 486	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 489	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 494	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 635	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 671	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 672	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 674	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C 675	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C 676	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 677	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 690	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 691	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMZPSL221
C 701	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 702	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C 703	ELECTROLYTIC CAP. 1.0μF/50V NP H7	CP1JMASSB010
C 704	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 707	PCB JUMPER D0.6-P5.0	JW5.0T
C 708	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 709	CHIP CERAMIC CAP. F Z 0.01μF/50V or	CHE1JZB0F103
	CERAMIC CAP. (AX) F Z 0.01μF/50V	CDA1EZT0F103
C 717	PCB JUMPER D0.6-P5.0	JW5.0T
C 801	ELECTROLYTIC CAP. 330μF/16V M	CE1CMASDL331
C 802	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 803	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C 804	SEMICONDUCTOR CAP. SR K 0.027μF/25V	CDA1EKS0X273

Ref. No.	Description	Part No.
C 806	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 851	CHIP CERAMIC CAP. F Z 0.033μF/50V or	CHE1JZB0F333
	CERAMIC CAP. (AX) F Z 0.033μF/50V	CDA1CZT0F333
C 854	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 855	ELECTROLYTIC CAP. 3.3μF/50V M H7	CE1JMASSL3R3
C 856	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMASSL0R1
C 857	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 858	MYLAR CAP. 0.022μF/100V J or	CMA2AJS00223
	MYLAR CAP. 0.022μF/100V J	1255223
C 859	ELECTROLYTIC CAP. 47μF/6.3V M	CE0KMASDL470
C 860	SEMICONDUCTOR CAP. SR K 0.022μF/25V	CDA1EKS0X223
C 861	CERAMIC CAP.(AX) F Z 0.033μF/16V	CDA1CZT0F333
C 862	CERAMIC CAP.(AX) B K 680pF/50V	CCA1JKT0B681
C 863	CHIP CERAMIC CAP. B K 2200pF/50V or	CHE1JKB0B222
	CERAMIC CAP. (AX) B K 2200pF/50V	CDA1CKT0X222
C 864	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMASSL4R7
C 865	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMASSL470
C 866	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 867	CHIP CERAMIC CAP. B K 0.01μF/50V or	CHE1JKB0B103
	CERAMIC CAP. (AX) B K 0.01μF/50V	CDA1CMT0Y103
C 868	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
	CERAMIC CAP. (AX) B K 1000pF/50V	CDA1JKT0B102
C 869	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
CONNECTORS		
CN 201	CONNECTOR 6P TKC-G06P-A1	J3TKA06TG001
CN 202	STRAIGHT PIN HEADER 2P IL-S- 2P-S2T2-EF	1740764
CN 203	CONNECTOR 9P TKC-G09P-A1	J3TKA09TG001
CN 301	CONNECTOR BASE 5P TUC-P05P-B1	J3TUA05TG001
CN 471	FFC CONNECTOR BASE TOP 4P 9604S-04C	JC04J04ER002
CN 575	CONNECTOR BASE 6P TUC-P06P-B1	J3TUA06TG001
CN 604	CONNECTOR BASE 14P TUC-P14P-B1	J3TUA14TG001
CN 802	CONNECTOR BASE/LIGHT ANGLE 008283021100000 or	J383C02UG001
	ANGLE PIN HEADER 2P 173979-2	1770247
CN 851	FFC CONNECTOR BASE TOP 9P 9604S-09C	JC04J09ER002
CN 852	CABLE CONNECTOR 2P TMC-E02X-A1	JCTMC02TG001
DIODES		
D 103	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 106	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 153	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 156	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 157	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 201	LED(RED)L-FORMING CSL-501H3-MB	NP6ZCSL501H3
D 205	LED SLR-938CV-7	QPQSSLR938CV
D 211	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 212	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 216	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 221	ZENER DIODE UZ-6.2BSB	QDTB0UZ6R2BS
D 223	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
D 226	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
D 301	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 306	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 307	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 402	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 403	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 404	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 670	ZENER DIODE UZ-9.1BSA	QDTA0UZ9R1BS
D 671	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 672	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 673	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 674	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 676	ZENER DIODE UZ-4.3BSB	QDTB0UZ4R3BS
D 678	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 679	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 680	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 681	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 701	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
	ICS	
IC 101 ⚠	IC:TV MICON M37272M8-052FP or	QSMQA0SMB137
	IC:TV MICON M37272M4-052FP	QSMQB0SMB137
IC 201 ⚠	IC:VCR MICON 8BIT M37776M5A128GP	QSMQB0RMB135
IC 202	IC ST24C01FB6 or	NSMMA0ZSS004
	IC:MEMORY 24LC01B/P or	NSMMA0SMH002
	IC:EEPROM 1K AT24C01A-10PC or	NSMMA0ZAZ003
	IC ST24C01CB1	NSMMA0ZSS002
IC 203	IC:OP-AMP. LM324N	NSBLA0SSS007
IC 204	IC TA7291S	14LW342
IC 301 ⚠	IC:CHROMA/IF 1 CHIP M52339SP	QSBLA0SMB012
IC 401	IC:VIDEO LA71020M	QSBLA0RSY061
IC 472	IC:HEAD AMP LA70001	QSBLA0SSY062
IC 670 ⚠	IC:VOLTAGE REGULATOR KIA7806PI	NSBLA0ZJY038
IC 671 ⚠	IC:REGURATOR 5V KIA7805PI	NSBLA0ZJY020
IC 701	IC HCF4053BEY or	NSMDA0SSS002
	IC:SWITCHING NJU4053BD or	14D0436
	IC TC74HC4053AP	QSBLA0STS047
IC 801	IC:AUDIO POWER AMP KIA6278P	NSBLA0SJY022

Ref. No.	Description	Part No.
	COILS	
L 001	PCB JUMPER D0.6-P5.0	JW5.0T
L 030	INDUCTOR 1.0μH-K-26T or	LLAXKATTU1R0
	INDUCTOR 1.0μH-K-26T	LLAXKDTKA1R0
L 101	INDUCTOR 5.6μH-K-26T or	LLAXKATTU5R6
	INDUCTOR 5.6μH-K-26T	LLAXKDTKA5R6
L 102	INDUCTOR 5.6μH-K-26T or	LLAXKATTU5R6
	INDUCTOR 5.6μH-K-26T	LLAXKDTKA5R6
L 103	INDUCTOR 5.6μH-K-26T or	LLAXKATTU5R6
	INDUCTOR 5.6μH-K-26T	LLAXKDTKA5R6
L 104	INDUCTOR 5.6μH-K-26T or	LLAXKATTU5R6
	INDUCTOR 5.6μH-K-26T	LLAXKDTKA5R6
L 105	INDUCTOR 56μH-K-26T or	LLAXKATTU560
	INDUCTOR 56μH-K-26T	LLAXKDTKA560
L 107	INDUCTOR 100μH-K-26T or	LLAXKATTU101
	INDUCTOR 100μH-K-26T	LLAXKDTKA101
L 151	INDUCTOR 22μH-K-26T or	LLAXKATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L 201	PCB JUMPER D0.6-P5.0	JW5.0T
L 301	INDUCTOR 22μH-K-26T or	LLAXKATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L 302	INDUCTOR 10μH-K-26T or	LLAXKATTU100
	INDUCTOR 10μH-K-26T	LLAXKDTKA100
L 305	INDUCTOR 18μH-K-26T or	LLAXKATTU180
	INDUCTOR 18μH-K-26T	LLAXKDTKA180
L 306	INDUCTOR 15μH-K-26T or	LLAXKATTU150
	INDUCTOR 15μH-K-26T	LLAXKDTKA150
L 308	INDUCTOR 100μH-K-5FT or	LLARKCSTU101
	INDUCTOR 100μH-K-5FT	LLARKDSKA101
L 310	PCB JUMPER D0.6-P5.0	JW5.0T
L 404	INDUCTOR 56μH-K-26T or	LLAXKATTU560
	INDUCTOR 56μH-K-26T	LLAXKDTKA560
L 406	INDUCTOR 100μH-K-26T or	LLAXKATTU101
	INDUCTOR 100μH-K-26T	LLAXKDTKA101
L 407	LEAD INDUCTOR 22μH-K	LLARKMUTU220
L 408	INDUCTOR 330μH-J-26T or	LLAXJATTU331
	INDUCTOR 330μH-K-26T	LLAXKDTKA331
L 409	INDUCTOR 330μH-J-26T or	LLAXJATTU331
	INDUCTOR 330μH-K-26T	LLAXKDTKA331
L 410	INDUCTOR 560μH-K-5FT or	LLARKCSTU561
	INDUCTOR 560μH-K-5FT	LLARKDSKA561
L 411	INDUCTOR 56μH-K-26T or	LLAXKATTU560
	INDUCTOR 56μH-K-26T	LLAXKDTKA560
	TRANSISTORS	
Q 030	TRANSISTOR 2SC3000E	2SC3000EZ
Q 102	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 111	RES. BUILT-IN TRANSISTOR KRC104M	NQSZ0KRC104M
Q 204	PHOTO TRANSISTOR PT380FB	QP4B00PT380F
Q 205	PHOTO TRANSISTOR ST-316R2-B	QP4B0ST316R2
Q 206	PHOTO TRANSISTOR ST-316R2-B	QP4B0ST316R2
Q 207	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 213	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 301	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ

Ref. No.	Description	Part No.
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 302	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 304	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 308	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 309	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 311	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 403	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 404	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 410	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 411	TRANSISTOR KTC3193(Y) or	NQSY0KTC3193
	TRANSISTOR 2SC2839(E) or	C2839EZ
	TRANSISTOR 2SC2839(F)	C2839FZ
Q 413	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 415	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 417	PCB JUMPER P5.0MM	JW5.0
Q 670	TRANSISTOR KTD2058(Y)	NQ4Y0KTD2058
Q 671	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 672	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 673	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 674	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 690	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 691	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 703	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 704	TRANSISTOR KTC3199(GR) or	NQS10KTC3199

Ref. No.	Description	Part No.
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 801	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 851	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 852	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 853	TRANSISTOR 2SD734F-NP-AQ	QQSF002SD734
Q 854	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 855	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
J 113	CARBON RES. 1/6W J 10k Ω or	RCX6JZPZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JZPZ0103
J 115	CARBON RES. 1/6W J 10k Ω or	RCX6JZPZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JZPZ0103
J 131	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 001	CHIP RES. 1/10W J 180k Ω or	RRXAJBBZ0184
	CARBON RES. 1/6W J 180k Ω or	RCX6JATZ018
	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0183
R 002	CHIP RES. 1/10W J 18k Ω or	RRXAJBBZ0183
	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 003	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 004	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 031	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 032	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 033	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 034	CHIP RES. 1/10W J 1.5k Ω or	RRXAJBBZ0152
	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 035	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 036	CHIP RES. 1/10W J 33 Ω or	RRXAJBBZ0330
	CARBON RES. 1/6W J 33 Ω or	RCX6JATZ0330
	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R 036	CHIP RES. 1/10W J 33 Ω	RRXAJBBZ0330
R 101	CHIP RES. 1/10W J 470k Ω or	RRXAJBBZ0474
	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R 102	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 108	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 110	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 111	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 112	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 113	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 114	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102

Ref. No.	Description	Part No.
R 115	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 117	CHIP RES. 1/10W J 1.8k Ω or	RRXAJBBZ0182
	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 132	PCB JUMPER D0.6-P5.0	JW5.0T
R 133	PCB JUMPER D0.6-P5.0	JW5.0T
R 134	PCB JUMPER D0.6-P5.0	JW5.0T
R 137	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 138	CHIP RES. 1/10W J 33k Ω or	RRXAJBBZ0333
	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 139	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 142	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 143	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 144	CHIP RES. 1/10W J 100k Ω or	RRXAJBBZ0104
	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 146	PCB JUMPER D0.6-P5.0	JW5.0T
R 147	PCB JUMPER D0.6-P5.0	JW5.0T
R 149	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 150	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 151	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 152	CHIP RES. 1/10W J 15k Ω or	RRXAJBBZ0153
	CARBON RES. 1/6W J 15k Ω or	RCX6JATZ0153
	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R 153	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 155	CHIP RES. 1/10W J 5.6k Ω or	RRXAJBBZ0562
	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 157	CHIP RES. 1/10W J 2.7k Ω	RRXAJBBZ0272
R 158	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 159	PCB JUMPER D0.6-P5.0	JW5.0T
R 161	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 162	CHIP RES. 1/10W J 27k Ω or	RRXAJBBZ0273
	CARBON RES. 1/6W J 27k Ω or	RCX6JATZ0273
	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R 162	CHIP RES. 1/10W J 27k Ω	RRXAJBBZ0273
R 163	CHIP RES. 1/10W J 6.8k Ω or	RRXAJBBZ0682
	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 165	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 170	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 171	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 172	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332

Ref. No.	Description	Part No.
R 175	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 177	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 179	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 180	CHIP RES. 1/10W J 47k Ω or	RRXAJBBZ0473
	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 184	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 186	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 190	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 194	CHIP RES. 1/10W J 6.8k Ω or	RRXAJBBZ0682
	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 195	CHIP RES. 1/10W J 22k Ω or	RRXAJBBZ0223
	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 196	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 197	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 201	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 203	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 205	PCB JUMPER D0.6-P5.0	JW5.0T
R 206	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 207	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 208	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 209	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R 210	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 211	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 212	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 213	CARBON RES. 1/6W J 2.7k Ω or	RCX6JATZ0272
	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R 214	PCB JUMPER D0.6-P5.0	JW5.0T
R 216	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 217	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 218	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 219	CARBON RES. 1/6W J 2.7k Ω or	RCX6JATZ0272
	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R 220	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 221	CARBON RES. 1/6W J 39 Ω or	RCX6JATZ0390
	CARBON RES. 1/4W J 39 Ω	RCX4JATZ0390
R 222	CARBON RES. 1/6W J 39 Ω or	RCX6JATZ0390
	CARBON RES. 1/4W J 39 Ω	RCX4JATZ0390
R 223	CARBON RES. 1/6W J 680k Ω or	RCX6JATZ0684
	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684

Ref. No.	Description	Part No.
R 224	CHIP RES. 1/10W J 680k Ω or	RRXAJBBZ0684
	CARBON RES. 1/6W J 680k Ω or	RCX6JATZ0684
	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R 225	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 228	CHIP RES. 1/10W J 560 Ω or	RRXAJBBZ0561
	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 229	CHIP RES. 1/10W J 15k Ω or	RRXAJBBZ0153
	CARBON RES. 1/6W J 15k Ω or	RCX6JATZ0153
	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R 230	CHIP RES. 1/10W J 560 Ω or	RRXAJBBZ0561
	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 231	PCB JUMPER D0.6-P5.0	JW5.0T
R 233	CARBON RES. 1/6W J 330k Ω or	RCX6JATZ0334
	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R 234	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 235	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 236	PCB JUMPER D0.6-P5.0	JW5.0T
R 237	CHIP RES. 1/10W J 39k Ω or	RRXAJBBZ0393
	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 238	CHIP RES. 1/10W J 220k Ω or	RRXAJBBZ0224
	CARBON RES. 1/6W J 220k Ω or	RCX6JATZ0224
	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R 239	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 242	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 243	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 244	CHIP RES. 1/10W J 5.6k Ω or	RRXAJBBZ0562
	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 245	CHIP RES. 1/10W J 1.8k Ω or	RRXAJBBZ0182
	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 246	PCB JUMPER D0.6-P5.0	JW5.0T
R 247	CHIP RES. 1/10W J 56k Ω or	RRXAJBBZ0563
	CARBON RES. 1/6W J 56k Ω or	RCX6JATZ0563
	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 247	CHIP RES. 1/10W J 56k Ω	RRXAJBBZ0563
R 248	CHIP RES. 1/10W J 330 Ω or	RRXAJBBZ0331
	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 249	CHIP RES. 1/10W J 56k Ω or	RRXAJBBZ0563
	CARBON RES. 1/6W J 56k Ω or	RCX6JATZ0563
	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 250	CHIP RES. 1/10W J 47k Ω or	RRXAJBBZ0473
	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 251	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 252	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 253	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102

Ref. No.	Description	Part No.
R 254	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 255	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 256	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 257	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 258	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 259	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 260	CHIP RES. 1/10W J 1.2k Ω or	RRXAJBBZ0122
	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R 261	CHIP RES. 1/10W J 47 Ω or	RRXAJBBZ0470
	CARBON RES. 1/6W J 47 Ω or	RCX6JATZ0470
	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R 262	CHIP RES. 1/10W J 100k Ω or	RRXAJBBZ0104
	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 263	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 264	CHIP RES. 1/10W J 1M Ω or	RRXAJBBZ0105
	CARBON RES. 1/6W J 1M Ω or	RCX6JATZ0105
	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R 265	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 266	PCB JUMPER D0.6-P5.0	JW5.0T
R 267	CHIP RES. 1/10W J 10M Ω or	RRXAJBBZ0106
	CARBON RES. 1/4W J 10M Ω	RCX4JATZ0106
R 268	CHIP RES. 1/10W J 470k Ω or	RRXAJBBZ0474
	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R 270	CHIP RES. 1/10W J 680 Ω or	RRXAJBBZ0681
	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 271	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 272	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 273	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 274	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 279	PCB JUMPER P5.0MM	JW5.0
	[TUNER IS USED TELH9-008A/012A/013A]	
	[TUNER IS USED NJH3021U001]	
R 280	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 281	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 282	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 286 ⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 287 ⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0

Ref. No.	Description	Part No.
R 288 ⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 289	PCB JUMPER D0.6-P5.0	JW5.0T
R 290	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 291	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 292	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R 295	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 296	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 297	CHIP RES. 1/10W J 5.6k Ω or	RRXAJBBZ0562
	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 301	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 302	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 303	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R 304	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 305	CHIP RES. 1/10W J 390 Ω or	RRXAJBBZ0391
	CARBON RES. 1/6W J 390 Ω or	RCX6JATZ0391
	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R 306	CHIP RES. 1/10W J 100 Ω or	RRXAJBBZ0101
	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 307	CHIP RES. 1/10W J 100 Ω or	RRXAJBBZ0101
	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 308	CHIP RES. 1/10W J 100 Ω or	RRXAJBBZ0101
	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 309	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 310	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 311	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 312	CHIP RES. 1/10W J 820 Ω or	RRXAJBBZ0821
	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 313	CHIP RES. 1/10W J 100 Ω or	RRXAJBBZ0101
	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 314	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 317	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 318	CHIP RES. 1/10W J 12k Ω or	RRXAJBBZ0123
	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 319	CHIP RES. 1/10W J 180k Ω or	RRXAJBBZ0184
	CARBON RES. 1/6W J 180k Ω or	RCX6JATZ018
	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0183
R 320	CHIP RES. 1/10W J 150 Ω	RRXAJBBZ0151
	CARBON RES. 1/6W J 150 Ω or	RCX6JATZ0151
	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R 321	CHIP RES. 1/10W J 390 Ω or	RRXAJBBZ0391
	CARBON RES. 1/6W J 390 Ω or	RCX6JATZ0391
	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R 324	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 325	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 326	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 327	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 331	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 333	CHIP RES. 1/10W J 22k Ω or	RRXAJBBZ0223
	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 334	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 335	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 337	CARBON RES. 1/6W J 150k Ω or	RCX6JATZ0154
	CARBON RES. 1/4W J 150k Ω	RCX4JATZ0154
R 338	CHIP RES. 1/10W J 4.7M Ω or	RRXAJBBZ0475
	CARBON RES. 1/6W J 4.7M Ω or	RCX6JATZ0475
	CARBON RES. 1/4W J 4.7M Ω	RCX4JATZ0475
R 339	CHIP RES. 1/10W J 270k Ω or	RRXAJBBZ0274
	CARBON RES. 1/6W J 270k Ω or	RCX6JATZ0274
	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R 340	CHIP RES. 1/10W J 220k Ω or	RRXAJBBZ0224
	CARBON RES. 1/6W J 220k Ω or	RCX6JATZ0224
	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R 341	CHIP RES. 1/10W J 33k Ω or	RRXAJBBZ0333
	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 342	CHIP RES. 1/10W J 33k Ω or	RRXAJBBZ0333
	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 344	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 345	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 346	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 347	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 349	CHIP RES. 1/10W J 680k Ω or	RRXAJBBZ0684
	CARBON RES. 1/6W J 680k Ω or	RCX6JATZ0684
	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R 350	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 351	CHIP RES. 1/10W J 3.9k Ω or	RRXAJBBZ0392
	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 353	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 356	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 358	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 360	CHIP RES. 1/10W J 330 Ω or	RRXAJBBZ0331

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 264	CHIP RES. 1/10W J 56k Ω or	RRXAJBBZ0563
	CARBON RES. 1/6W J 56k Ω or	RCX6JATZ0563
	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 365	CHIP RES. 1/10W J 180 Ω	RRXAJBBZ0181
	CARBON RES. 1/6W J 180 Ω or	RCX6JATZ0181
	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R 366	CHIP RES. 1/10W J 820 Ω or	RRXAJBBZ0821
	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 367	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 368	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 369	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 370	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 371	CHIP RES. 1/10W J 2.7k Ω or	RRXAJBBZ0272
	CARBON RES. 1/6W J 2.7k Ω or	RCX6JATZ0272
	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R 372	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 373	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 374	PCB JUMPER D0.6-P5.0	JW5.0T
R 375	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 376	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 380	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 381	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 383	PCB JUMPER D0.6-P5.0	JW5.0T
R 401	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 405	CHIP RES. 1/10W J 820 Ω	RRXAJBBZ0821
R 413	CHIP RES. 1/10W J 2.7k Ω or	RRXAJBBZ0272
	CARBON RES. 1/6W J 2.7k Ω or	RCX6JATZ0272
	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R 414	CHIP RES. 1/10W J 680 Ω or	RRXAJBBZ0681
	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 415	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 416	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 417	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 424	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 426	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 427	CHIP RES. 1/10W J 33k Ω or	RRXAJBBZ0333
	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333

Ref. No.	Description	Part No.
R 428	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 430	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 431	PCB JUMPER D0.6-P5.0	JW5.0T
R 432	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 433	PCB JUMPER D0.6-P5.0	JW5.0T
R 434	CHIP RES. 1/10W J 820 Ω or	RRXAJBBZ0821
	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 437	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 438	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 440	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 441	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 442	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 443	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 444	CHIP RES. 1/10W J 6.8k Ω or	RRXAJBBZ0682
	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 455	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R 456	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 457	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R 458	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 460	PCB JUMPER D0.6-P5.0	JW5.0T
R 471	CHIP RES. 1/10W J 1.5k Ω or	RRXAJBBZ0152
	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 472	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 474	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 475	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 487	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 488	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 489	CHIP RES. 1/10W J 15k Ω or	RRXAJBBZ0153
	CARBON RES. 1/6W J 15k Ω or	RCX6JATZ0153
	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R 490	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 491	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 670 ⚠	FUSE RES. 1/2W J 1 Ω or	RFX21R0UB001
	FUSE RES. 1/2W J 1 Ω	RFX21R0KA007
R 671	CHIP RES. 1/10W J 47k Ω or	RRXAJBBZ0473
	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 672	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 673	CARBON RES. 1/6W J 150 Ω or	RCX6JATZ0151
	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R 674	PCB JUMPER D0.6-P5.0	JW5.0T
R 675	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 676 ⚠	METAL RESISTOR 1W J 15 Ω or	RN01150KE006
	METAL RESISTOR 1W J 15 Ω or	RN01150UB001
	METAL RESISTOR 1W J 15 Ω	RN01150ZU001
R 677	PCB JUMPER D0.6-P15.0	JW15.0T
R 678	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 679	CARBON RES. 1/6W J 820k Ω or	RCX6JATZ0824
	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R 680	CHIP RES. 1/10W J 56k Ω or	RRXAJBBZ0563
	CARBON RES. 1/6W J 56k Ω or	RCX6JATZ0563
	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 681	CHIP RES. 1/10W J 56k Ω or	RRXAJBBZ0563
	CARBON RES. 1/6W J 56k Ω or	RCX6JATZ0563
	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 682	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 683	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 684 ⚠	METAL RESISTOR 1W J 12 Ω or	RN01120KE006
	METAL RESISTOR 1W J 12 Ω or	RN01120UB001
	METAL RESISTOR 1W J 12 Ω	RN01120ZU001
R 686	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 687	CHIP RES. 1/10W J 390 Ω or	RRXAJBBZ0391
	CARBON RES. 1/6W J 390 Ω or	RCX6JATZ0391
	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R 690	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 691	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 692	CHIP RES. 1/10W J 1M Ω or	RRXAJBBZ0105
	CARBON RES. 1/6W J 1M Ω or	RCX6JATZ0105
	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R 694	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 695	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 693	CARBON RES. 1/6W J 180 Ω or	RCX6JATZ0181
	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R 703	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 704	CHIP RES. 1/10W J 39k Ω or	RRXAJBBZ0393
	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 705	CHIP RES. 1/10W J 680 Ω or	RRXAJBBZ0681
	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 706	CHIP RES. 1/10W J 22k Ω or	RRXAJBBZ0223
	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 707	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 708	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 711	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R 724	CHIP RES. 1/10W J 12k Ω or	RRXAJBBZ0123
	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 725	CHIP RES. 1/10W J 10k Ω or	RRXAJBBZ0103
	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 726	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 801	CHIP RES. 1/10W J 470 Ω or	RRXAJBBZ0471
	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 802	CHIP RES. 1/10W J 150 Ω	RRXAJBBZ0151
	CARBON RES. 1/6W J 150 Ω or	RCX6JATZ0151
	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R 803	CHIP RES. 1/10W J 680 Ω or	RRXAJBBZ0681
	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 804	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 805	CARBON RES. 1/2W J 100 Ω	RCX2101UB001
R 807	CHIP RES. 1/10W J 4.7M Ω or	RRXAJBBZ0475
	CARBON RES. 1/6W J 4.7M Ω or	RCX6JATZ0475
	CARBON RES. 1/4W J 4.7M Ω	RCX4JATZ0475
R 849	PCB JUMPER D0.6-P5.0	JW5.0T
R 851	CHIP RES. 1/10W J 15k Ω or	RRXAJBBZ0153
	CARBON RES. 1/6W J 15k Ω or	RCX6JATZ0153
	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R 852	CHIP RES. 1/10W J 4.7k Ω	RRXAJBBZ0472
	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 854	CHIP RES. 1/10W J 3.3k Ω or	RRXAJBBZ0332
	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 855	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 856	CHIP RES. 1/10W J 2.2M Ω or	RRXAJBBZ0225
	CARBON RES. 1/6W J 2.2M Ω or	RCX6JATZ0225
	CARBON RES. 1/4W J 2.2M Ω	RCX4JATZ0225
R 857	CHIP RES. 1/10W J 1.3k Ω	RRXAJBBZ0132
	CARBON RES. 1/6W J 1.3k Ω or	RCX6JATZ0132
	CARBON RES. 1/4W J 1.3k Ω	RCX4JATZ0132
R 858	CHIP RES. 1/10W J 1k Ω or	RRXAJBBZ0102
	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 859	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R 860	CARBON RES. 1/6W J 47 Ω or	RCX6JATZ0470
	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R 861	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 862	CHIP RES. 1/10W J 2.2k Ω or	RRXAJBBZ0222
	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 863	CHIP RES. 1/10W J 180 Ω or	RRXAJBBZ0181
	CARBON RES. 1/6W J 180 Ω or	RCX6JATZ0181
	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R 864	CHIP RES. 1/10W J 22k Ω or	RRXAJBBZ0223
	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 865	CHIP RES. 1/10W J 180 Ω or	RRXAJBBZ0181
	CARBON RES. 1/6W J 180 Ω or	RCX6JATZ0181

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R 866	CHIP RES. 1/10W J 330k Ω or	RRXAJBBZ0334
	CARBON RES. 1/6W J 330k Ω or	RCX6JATZ0334
	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R 867	CHIP RES. 1/10W J 12k Ω or	RRXAJBBZ0123
	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 868	CHIP RES. 1/10W J 8.2k Ω or	RRXAJBBZ0822
	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 869	CHIP RES. 1/10W J 12k Ω or	RRXAJBBZ0123
	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 870	PCB JUMPER D0.6-P5.0	JW5.0T
	SWITCHES	
SW 201	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 202	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 203	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 204	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 205	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 207	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 208	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 209	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 210	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 211	PUSH SWITCH KSM0612B or	SST0101HH003
	TACTILE SWITCH SKHHAM	SST0101AL038
SW 215	PUSH SWITCH SPPB61 or	SSP0102AL001
	PUSH SWITCH JPS1120-0601H	SSP0102SR001
	VARIABLE RESISTORS	
VR 101	CARBON P.O.T. 50k Ω B or	VRCB503KA011
	CARBON P.O.T. 50k Ω B	VRCB503HH005
VR 302	CARBON P.O.T. 100k Ω B or	VRCB104KA011
	CARBON P.O.T. 100k Ω B	VRCB104HH005
	CRYSTAL OSCILLATORS	
X 101	CERAMIC RESONATOR ZTT 8.00MHz or	FY0805PLN001
	CERAMIC RESONATOR FCR8.0MC	FY0805PTE001
X 201	CRYSTAL 16MHz	FXE166LCT001
X 202	CRYSTAL 32kHz(10PPM) or	1811351
	CRYSTAL 32kHz(10PPM)	1811350
X 301	CRYSTAL 3.579545 MHz	FXD355LLN001
X 302	CERAMIC RESONATOR CSB503F18	FY0504PMR001
X 401	CRYSTAL 3.579545MHz or	FXC355LGM001
	CRYSTAL 3.579545MHz or	FXC355LA6001
	CRYSTAL 3.579545MHz	FXC355TDS001
	MISCELLANEOUS	
CF 302	CERAMIC TRAP 4.5MHz or	FBE455PS0001
	CERAMIC TRAP 4.5MHz	FBE455PMS001
CF 303	CERAMIC FILTER SFSH4.5MCB	FBB455PMR001
J 036	WIRE 035/BLA/AWG28#1007	WX3001A84404
J 288	PCB JUMPER P7.5mm	JW7.5T
	[REMOCON RECEIVER IS USED PIC-21042SR]	
J288	PCB JUMPER P5.0mm [REMOCON RECEIVER IS USED NJL61V367S]	JW5.0T
J289	PCB JUMPER P5.0mm	JW5.0T
	[REMOCON RECEIVER IS USED PIC-21042SR]	

Ref. No.	Description	Part No.
J289	PCB JUMPER P7.5mm	JW7.5T
	[REMOCON RECEIVER IS UESD NJL61V367S]	
JK 701	RCA JACK 1P AV-8.4-9W	JXRL010RP011
JK 702	RCA JACK 1P AV-8.4-9Y	JXRL010RP010
JK 801	EARPHONE JACK HSJ1403-01-010 or	JYSL030HD002
	EARPHONE JACK LGY6501-0600	JYSL030SR001
RS 201	REMOCON RECEIVER PIC-21042SR or	USESJRSKK019
	REMOCON RECEIVER NJL61V367S	USESJRSJR011
SF 031	SAW FILTER M1958M	FBB456PEB001
SN 201	DEW SENSOR EYHS-10R4	PCZHUMZMS004
T 301	VCO COIL KHI-821023 or	LFA08V0KV002
	VCO COIL KS1252NC or	LFA08V0LH002
	IFT COIL(VC0) 7K6-14913A or	LFA07V0VD007
	CASING COIL S-7GC	LFA07V0SF110
T 302	SIF COIL KHI-821024 or	LFA08V0KV001
	SIF COIL KS1253NC or	LFA08V0LH001
	IFT COIL(SIF) 7K6-15911A or	LFA07V0VD005
	IFT COIL(SIF) SP-129-008A	LFA07V0SF112
T 851	COIL OSC 7L1A48A or	LFA08V0LH003
	COIL OSC 15916B	LFA07V0VD009
TB 4	MODEL NO. LABEL B4800UA	0EM403692
TB 5	FIBER(8X4.5XT1.5) B5506UG	0EM402525
TB 6	HEAD SHIELD B5800UA	0EM301052
TB 10	BOTTOM SHIELD B5800UA	0EM301051
TB 11	UL TUBE	0EM403703
	[PHOTO TRANSISTOR IS USED ST-316R2-B]	
TB 12	SENSOR HOLDER B5700UA	0EM403136
TB 16	BUSH LED(B) R8700U6:VD5674	6N50114
	[PHOTO TRANSISTOR IS USED ST-316R2-B]	
TB 19	CUSHION LED H7100UD	0VM408001
TU 001 ⚠	TUNER UNIT TELH9-008A/012A/013A or	UTUNNTUAL011
	TUNER UNIT B8015AP or	UTUNNTUSP005
	TUNER UNIT NJH3021U001	UTUNNTUJR003

SUB CBA

Ref. No.	Description	Part No.
	SUB CBA	0ESA02142
	Consists of the following	
	Power Supply CBA	————
	H/V CBA	————
	CRT CBA	————

Power Supply CBA

Ref. No.	Description	Part No.
	Power Supply CBA	————
	Consists of the following	
	CAPACITORS	
C 900	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C 901	ELECTRIC CAP. 3300μF/25V (PJ)	CA1E332NC052
C 902	MYLAR CAP. 0.1μF/50V J or	CMA1JJS00104
	MYLAR CAP. 0.1μF/50V K	2250104
C 903	P.P. CAPACITOR 0.0033μF/630V J or	CBP2KKD00332
	P.P. CAPACITOR 0.0033μF/630V J	CT2K332KF011
C 904	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 905 ⚠	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 911	CERAMIC CAP. 470pF/1KV or	CCD3AKP0B471
	CERAMIC CAP. 470pF/1KV	CCD3AKD0B471
C 912	CERAMIC CAP. 470pF/1KV or	CCD3AKP0B471
	CERAMIC CAP. 470pF/1KV	CCD3AKD0B471
C 913	ELECTROLYTIC CAP. 100μF/160V(PR)(105C	CA2C101NC009
C 914	P.P. CAPACITOR 0.0082μF/630V J or	CBP2KKD00822
	P.P. CAPACITOR 0.0082μF/630V J	CT2K822KF011
C 915	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100

Ref. No.	Description	Part No.
C 920	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C 921	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 922	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 923	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 924	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C 1601 ⚠	METALLIZED FILM CAP. 0.1μF/250V K	CT2E104DC009
C 1605	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 1606	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 1607	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 1608	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 1610 ⚠	ELECTROLYTIC CAP. 220μF/200V SL X or	CA2D221S6003
	ELECTROLYTIC CAP. 220μF/200V M W/F	CE2DMZNTL221
C 1611 ⚠	P.P. CAPACITOR 0.001μF/630V J or	CBP2KKD00102
	P.P. CAPACITOR 0.001μF/630V J	CT2K102KF011
C 1612	MYLAR CAP. 0.056μF/50V J or	CMA1JJS00563
	MYLAR CAP. 0.056μF/50V K	2250563
C 1613	CERAMIC CAP. 560pF/2KV or	CCD3DKP0B561
	CERAMIC CAP. BN 560pF/2KV	CCD3DKA0B561
C 1614	CERAMIC CAP. 330pF/2KV or	CCD3DKP0B331
	CERAMIC CAP. 330pF/2KV	CCD3DKD0B331
C 1615	MYLAR CAP. 0.0068μF/50V J or	CMA1JJQ00682
	MYLAR CAP. 0.0068μF/50V K	2250682
C 1621	MYLAR CAP. 0.022μF/50V J or	CMA1JJQ00223
	MYLAR CAP. 0.022μF/50V K	2250223
C 1622	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 1623	STACKED FILM CAP. 0.12μF/50V J or	CMA1JJQ00124
	MYLAR CAP. 0.12μF/50V K	2250124
C 1640 ⚠	CERAMIC CAP. F Z 0.01μF FZ CS or	CCG2HZP0Z103
	SAFETY CAP. 0.01μF F KH	CCG2HMP0F103
C 1644 ⚠	CERAMIC CAP. SAFETY 4700PF RS or	CCG2HMP0E472
	CERAMIC CAP. SAFETY 4700PF E KH	CCG2EMP0E472
C 1645 ⚠	CERAMIC CAP. SAFETY 4700PF RS or	CCG2HMP0E472
	CERAMIC CAP. SAFETY 4700PF E KH	CCG2EMP0E472
C 1650	CERAMIC CAP. 220pF/2KV or	CCD3DKP0B221
	CERAMIC CAP. 220pF/2KV	CCD3DKD0B221
C 1655	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C 1656	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C 1657	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMZPDL102
C 1658	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C 1661	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 1662	MYLAR CAP. 0.0022μF/50V J or	CMA1JJQ00222
	MYLAR CAP. 0.0022μF/50V K	2250222
C 1674	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 1691	ELECTROLYTIC CAP. 47μF/160V M W/F	CE2CMZNDL470
	CONNECTORS	
CN1605	CONNECTOR 14P TUC-P14X-B1	JCTUS14TG001
CN1651	CONNECTOR BASE 6P TUC-P06P-B1	J3TUA06TG001
CN1691	CONNECTOR BASE 2P TV-50P-02-V1 or	J3TVC02TG001
	CONNECTOR BASE 2P RTB-1.5-2P or	J3RTC02JG001
	CONNECTOR BASE 2P TJC-2P	J3JCC02H7001
	DIODES	
D 901	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 902	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 903 ⚠	RECTIFIER DIODE 1Z18	QD5Z00001Z18
D 905	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 906	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 911	FAST RECOVERY DIODE ERD38-06L	AERD3806L000
D 912	ZENER DIODE UZ-36BSA	QDTA00UZ36BS

Ref. No.	Description	Part No.
D 920	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 921	ZENER DIODE UZ-6.8BSB	QDTB0UZ6R8BS
D 923	DIODE ERA83-006-KFRB	QDSZERA83006
D 924	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 925	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 1605 ⚠	RECTIFIER DIODE ERB12-06 or	QDQZ0ERB1206
	RECTIFIER DIODE 1N4005	NDQZ001N4005
D 1606 ⚠	RECTIFIER DIODE ERB12-06 or	QDQZ0ERB1206
	RECTIFIER DIODE 1N4005	NDQZ001N4005
D 1607 ⚠	RECTIFIER DIODE ERB12-06 or	QDQZ0ERB1206
	RECTIFIER DIODE 1N4005	NDQZ001N4005
D 1608 ⚠	RECTIFIER DIODE ERB12-06 or	QDQZ0ERB1206
	RECTIFIER DIODE 1N4005	NDQZ001N4005
D 1611	FAST RECOVERY DIODE ERB44-08	QDPZ0ERB4408
D 1612	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1613	SWITCHING DIODE 1N4148	QDQZ001N4148
D 1617 ⚠	ZENER DIODE UZ-12BSB	QDTB00UZ12BS
D 1623	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1624	ZENER DIODE UZ-7.5BSB	QDTB0UZ7R5BS
D 1625	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1631	ZENER DIODE UZ-6.2BSB	QDTB0UZ6R2BS
D 1651	FAST RECOVERY DIODE ERD38-06L	AERD3806L000
D 1652	SCHOTTKY BARRIER DIODE ERA81-004 or	QDPZERA81004
	SCHOTTKY BARRIER DIODE ERB44-08	QDPZ0ERB4408
D 1653	SCHOTTKY BARRIER DIODE ERA81-004 or	QDPZERA81004
	SCHOTTKY BARRIER DIODE ERB44-08	QDPZ0ERB4408
D 1654	SCHOTTKY BARRIER DIODE ERA81-004 or	QDPZERA81004
	SCHOTTKY BARRIER DIODE ERB44-08	QDPZ0ERB4408
D 1655 ⚠	ZENER DIODE UZ-16BSA	QDQA00UZ16BS
D 1661	ZENER DIODE UZ-36BSA	QDTA00UZ36BS
D 1662	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1663	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1664	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1665	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 1666 ⚠	ZENER DIODE UZ-6.8BSB	QDTB0UZ6R8BS
D'1690	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
	ICS	
IC 901 ⚠	IC:SWITCHING REGURATOR STK740-020	QSZLA0ZSY008
IC1601 ⚠	PHOTO COUPLER PC817(AB)	QPP1000PC817
	TRANSISTORS	
Q 901	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 902	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ

Ref. No.	Description	Part No.
Q 903	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 911	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 921 ⚠	TRANSISTOR 2SA1469(Q) or	QQ9Q02SA1469
	TRANSISTOR 2SA1469(R)	QQ9R02SA1469
Q 922	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 923	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 924	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 927	PCB JUMPER P5.0MM	JW5.0
Q 1601 ⚠	TRANSISTOR 2SC4507	QQQZ02SC4507
Q 1602 ⚠	TRANSISTOR 2SC4204-AA	QQSZ02SC4204
Q 1603	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1661	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1662	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1663 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 1664	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
	RESISTORS	
R 901	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 902	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 903	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 904	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 905	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 906	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 911 ⚠	CEMENT RESISTOR 5W J 470 Ω H=10MM or	RW05471UB001
	CEMENT RESISTOR 5W J 470 Ω H=10MM	RW05471LX025
R 912 ⚠	CARBON RES. RD 1/4W J 120k Ω	RCX4JZXZ0124
R 913 ⚠	CARBON RES. RD 1/6W J 560 Ω or	RCX6JZXZ0561
	CARBON RES. RD 1/4W J 560 Ω	RCX4JZXZ0561

Ref. No.	Description	Part No.
R 914 ⚠	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 915	CARBON RES. 1/6W J 180k Ω or	RCX6JATZ0184
	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R 916	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 917	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 918	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 921	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 922	CARBON RES. RD 1/4W J 100 Ω	RCX4JZXZ0101
R 923	CARBON RES. RD 1/4W J 100 Ω	RCX4JZXZ0101
R 924	PCB JUMPER D0.6-P5.0	JW5.0T
R 925	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 926	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 927	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 928	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 929	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 930	PCB JUMPER D0.6-P5.0	JW5.0T
R 937 ⚠	WIREWOUND RES. 3W J 10 Ω	RW03100KA019
R 939 ⚠	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 940	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1601 ⚠	CEMENT RESISTOR 5W K 1.2 Ω or	RW051R2UB001
	CEMENT RESISTOR 5W K 1.2 Ω or	RW051R2KA006
	CEMENT RESISTOR 5W J 1.2 Ω	RW051R2LX025
R 1605	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 1606	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 1607	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 1608	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 1609 ⚠	METAL RESISTOR 2W J 68k Ω or	RN02683KE007
	METAL RESISTOR 2W J 68k Ω or	RN02683UB001
	METAL RESISTOR 2W J 68k Ω	RN02683ZU001
R 1610 ⚠	METAL RESISTOR 2W J 68k Ω or	RN02683KE007
	METAL RESISTOR 2W J 68k Ω or	RN02683UB001
	METAL RESISTOR 2W J 68k Ω	RN02683ZU001
R 1611	CARBON RES. RD 1/2W J 12 Ω or	RCX2JZSZ0120
	CARBON RES. U-FORMING 1/2W J 12 Ω	RCX2120KA005
R 1612	CARBON RES. RD 1/2W J 12 Ω or	RCX2JZSZ0120
	CARBON RES. U-FORMING 1/2W J 12 Ω	RCX2120KA005
R 1613	CARBON RES. RD 1/2W J 12 Ω or	RCX2JZSZ0120
	CARBON RES. U-FORMING 1/2W J 12 Ω	RCX2120KA005
R 1614	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1615	CARBON RES. RD 1/2W J 10 Ω or	RCX2JZSZ0100
	CARBON RES. U-FORMING 1/2W J 10 Ω	RCX2100KA005
R 1616	CARBON RES. RD 1/2W J 10 Ω or	RCX2JZSZ0100
	CARBON RES. U-FORMING 1/2W J 10 Ω	RCX2100KA005
R 1617	CARBON RES. RD 1/2W J 10 Ω or	RCX2JZSZ0100
	CARBON RES. U-FORMING 1/2W J 10 Ω	RCX2100KA005
R 1618	CARBON RES. RD 1/2W J 10 Ω or	RCX2JZSZ0100
	CARBON RES. U-FORMING 1/2W J 10 Ω	RCX2100KA005
R 1619	CARBON RES. RD 1/2W J 33 Ω or	RCX2JZSZ0330
	CARBON RES. U-FORMING 1/2W J 33 Ω	RCX2330KA005

Ref. No.	Description	Part No.
R 1621	CARBON RES. RD 1/4W J 1M Ω	RCX4JZXZ0105
R 1622	CARBON RES. RD 1/4W J 1M Ω	RCX4JZXZ0105
R 1623	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 1624	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 1625	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 1626	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R 1627	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 1628	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 1629	CARBON RES. 1/6W J 390k Ω or	RCX6JATZ0394
	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R 1630	CARBON RES. 1/6W J 390k Ω or	RCX6JATZ0394
	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R 1631	CARBON RES. 1/6W J 27k Ω or	RCX6JATZ0273
	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R 1632	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 1633	CARBON RES. RD 1/4W J 47 Ω	RCX4JZXZ0470
R 1641	CARBON RES. 1/2W J 3.9M Ω	RCX2395A4001
R 1651	CARBON RES. RD 1/4W J 56k Ω	RCX4JZXZ0563
R 1653	CARBON RES. RD 1/4W J 3.3k Ω	RCX4JZXZ0332
R 1654	CARBON RES. RD 1/4W J 3.3k Ω	RCX4JZXZ0332
R 1655	CARBON RES. RD 1/4W J 3.3k Ω	RCX4JZXZ0332
R 1656	CARBON RES. RD 1/4W J 3.3k Ω	RCX4JZXZ0332
R 1657	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1658 ⚠	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 1659 ⚠	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 1660	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1662	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 1663	CARBON RES. RD 1/4W J 22k Ω	RCX4JZXZ0223
R 1664	CARBON RES. RD 1/4W J 18k Ω	RCX4JZXZ0183
R 1665	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1666	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 1667	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 1668	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 1669	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 1670	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 1671	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1673	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 1674	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 1675	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 1676	CARBON RES. RD 1/6W J 8.2k Ω or	RCX6JZXZ0822
	CARBON RES. RD 1/4W J 8.2k Ω	RCX4JZXZ0822
R 1677	CARBON RES. RD 1/6W J 100 Ω or	RCX6JZXZ0101
	CARBON RES. RD 1/4W J 100 Ω	RCX4JZXZ0101
R 1680	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 1681	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
	MISCELLANEOUS	
BC 901	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC 902	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC 903	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC 904	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC 911	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC 912	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC1601	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC1602	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC1651	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
BC1652	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
CL1604	LEAD WIRE 7P 360/BLA/AWG26#2651	WX3007S66636
CL1605	LEAD WIRE 7P 360/BLA/AWG26#2651	WX3007S66636
CP1601 ⚠	CERAMIPEC C471P R2.5-4M	FAZ000LD6001
CP1602 ⚠	CERAMIPEC C471P R2.5-4M	FAZ000LD6001
F 901 ⚠	FUSE 125V/6A 237 TYPE	PAGJ20CAG602
F 1601 ⚠	FUSE 125V/4A 237 TYPE	PAGJ20CAG402
FH 901	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH 902	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1601	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1602	FUSE HOLDER FH-V-03078	XH01Z00DK001
HS 2	HEAT SINK(EJ)	0EM403657
HS 3	HEAT SINK(PCI)ASSY	0EM403679
JK 901 ⚠	DC JACK	1630382
JK1601 ⚠	AC INLET CCT9302-0201M or	JTDC0P0SR001
	AC INLET HSC0555-010010 or	JTDC0P0HD001
	AC INLET YKE31-0120	JTDC0P0JC001
L 921	POT COIL 47μH K	LLBD00PKV004
L 1601	LINE FILTER 5.0MH 6Y075 or	LLBG00ZKT004
	LINE FILTER 4.2MH	LLBG00ZTZ001
L 1651	POT COIL 47μH K	LLBD00PKV004
PB 1	SHIELD BOX TOP	0EM301042
PB 2	SHIELD BOX BOTTOM	0EM403671
PB 3	MODEL NO. LABEL	0EM403693
PL 1	SCREW B-TIGHT 3X10 BIND HEAD	GBMB3100
PL 2	SCREW B-TIGHT 3X16 BIND	GBMB3160
PL 3	SCREW B-TIGHT 3X10 WASHER HEAD	GCMB3100
PS1691 ⚠	POSISTOR ZPB31BL7R0B or	5790124
	POSISTOR 901P52E070MP16	QNPZ901P5201
SA1601 ⚠	SURGE ABSORBER AVR-S07D471KAAS or	QVQZ0AVRS07D
	SURGE ABSORBER ENC471D-07AC	QVQZC471D07A
T 901 ⚠	SWITCHING TRANS 61173	LTT00ZPKT010
T 1601 ⚠	SWITCHING TRANS S1572 or	LTT00CPSA023
	SWITCHING TRANS 6004	LTT00CPKT009
TP1642	TEST PIN	1700093
VR 911 ⚠	CARBON P.O.T. 20k Ω B or	VRCB203KA011
	CARBON P.O.T. 20k Ω B	VRCB203HH005
VR 921	CARBON P.O.T. 500 Ω B or	VRCB501KA011
	CARBON P.O.T. 500 Ω B	VRCB501HH005
VR1661 ⚠	CARBON P.O.T. 300 Ω B or	VRCB301KA011
	CARBON P.O.T. 300 Ω B	VRCB301HH005
WH1604	WIRE HOLDER 14P 51048-1400	XW01D14NF001
WH1605	WIRE HOLDER 14P 51048-1400	XW01D14NF001

H/V CBA

Ref. No.	Description	Part No.
	H/V CBA	———
	Consists of the following	
	CAPACITORS	
C 551	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C 552	MYLAR CAP. 0.01µF/50V J or	CMA1JJS00103
	MYLAR CAP. 0.01µF/50V K	2250103S
C 553	ELECTROLYTIC CAP. 1µF/50V M LL H7 or	CA1J1R0SP018
	ELECTROLYTIC CAP. 1µF/50V M LL H7	CE1JMASHL010
C 554	ELECTROLYTIC CAP. 100µF/35V M	CE1GMASDL101
C 555	CERAMIC CAP.(AX) SL J 10pF/50V	CCA1JJTSL100
C 556	ELECTROLYTIC CAP. 2.2µF/50V M LL H7 or	CA1J2R2SP018
	ELECTROLYTIC CAP. 2.2µF/50V M LL H7	CE1JMASHL2R2
C 557	ELECTROLYTIC CAP. 1000µF/25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZNDL102
C 558	MYLAR CAP. 0.056µF/50V J or	CMA1JJS00563
	MYLAR CAP. 0.056µF/50V KT	2250563S
C 570 ⚠	METALLIZED FILM CAP. 0.22µF/200V J or	CT2D224F7001
	METALLIZED FILM CAP. 0.22µF/200V J	1220507
C 571	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 572	CERAMIC CAP. B K 2200pF/500V or	CCD2JKD0B222
	CERAMIC CAP. B K 2200pF/500V	CCD2JKP0B222
C 573	CERAMIC CAP. B K 1000pF/500V or	CCD2JKD0B102
	CERAMIC CAP. B K 1000pF/500V	CCD2JKP0B102
C 576	MYLAR CAP. 0.056µF/50V J or	CMA1JJS00563
	MYLAR CAP. 0.056µF/50V KT	2250563S
C 577	MYLAR CAP. 0.022µF/50V J or	CMA1JJS00223
	MYLAR CAP. 0.022µF/50V K	2250223S
C 578 ⚠	ELECTROLYTIC CAP. 4.7µF/250V	CE2EMASDL4R7
C 579	ELECTROLYTIC CAP. 1µF/160V	CE2CMASDL010
C 580 ⚠	METALLIZED FILM CAP. 0.0068µF/1.6KV J or	CT3C682F7002
	METALLIZED FILM CAP. 0.0068µF/1.6KV J	1220498
	[FLY BACK TRANSFORMER IS USED BSC25-2088S]	
	METALLIZED FILM CAP. 0.0082µF/1.6KV J or	CT3C822F7002
	METALLIZED FILM CAP. 0.0082µF/1.6KV J	1220499
	[FLY BACK TRANSFORMER IS USED FCK-09B001]	
	METALLIZED FILM CAP. 0.0056µF/1.6KV J or	CT3C562F7002
	METALLIZED FILM CAP. 0.0056µF/1.6KV J	1220497
	[FLY BACK TRANSFORMER IS USED 6174Z-8379C]	
C 581 ⚠	CERAMIC CAP. 220pF/2KV or	CA3D221KG004
	CERAMIC CAP. BN J 220pF/2KV	CCD3DKA0B221
	[FLY BACK TRANSFORMER IS USED BSC25-2088S]	
	FLY BACK TRANSFORMER IS USED FCK-09B001]	
	CERAMIC CAP. 680pF/2KV or	CA3D681KG004
	CERAMIC CAP. BN 680pF/2KV	CCD3DKA0B681
	[FLY BACK TRANSFORMER IS USED 6174Z-8379C]	
C 582	ELECTROLYTIC CAP. 470µF/35V M or	CE1GMZPDL471
	ELECTROLYTIC CAP. 470µF/35V M	CE1GMZNDL471
C 583 ⚠	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C 593 ⚠	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
	CONNECTORS	
CN 571	CONNECTOR BASE 5P or	1730813
	CONNECTOR BASE 5P RTB-1.5-5P or	J3RTC05JG001
	CONNECTOR BASE 5P W-P3005-02 or	1730812
	CONNECTOR BASE 5P TJC-5P	J3JCC05H7001
CN 576	CONNECTOR 6P TUC-P06X-B1	JCTUS06TG001
CN1652	CONNECTOR 6P TUC-P06X-B1	JCTUS06TG001
	DIODES	
D 551	ZENER DIODE UZ-8.2BSB	QDTB0UZ8R2BS
D 552	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502

Ref. No.	Description	Part No.
D 571	RECTIFIER DIODE ERB12-02 or	QDPZ0ERB1202
	RECTIFIER DIODE 1N4003MPL	ND4Z001N4003
D 572	FAST RECOVERY DIODE ERB44-04	QDPZ0ERB4404
D 573 ⚠	FAST RECOVERY DIODE ERB44-04	QDPZ0ERB4404
D 574	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 581	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 582	RECTIFIER DIODE ERA15-02KFRB	QDNZ0ERA1502
D 583	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 584	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1N4148M or	QDTZ01N4148M
	SWITCHING DIODE GMB01-BT	GMB01BT
D 585 ⚠	ZENER DIODE UZ-4.7BSB	QDTB0UZ4R7BS
D 586	ZENER DIODE UZ-36BSA	QDTA00UZ36BS
	IC	
IC 551 ⚠	IC:VERTICAL OUT LA7837	QSBLA0ZSY003
	COILS	
L 571	POT COIL 100µH K	LLARKLAMM101
L 581 ⚠	INDUCTOR 33µH-K-26T or	LLAXKATTU330
	INDUCTOR 33µH-K-26T	LLAXKDTKA330
	TRANSISTORS	
Q 551	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA608SP(E) or	2SA608SEZ
	TRANSISTOR 2SA608SP(F) or	2SA608SFZ
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 571 ⚠	TRANSISTOR 2SD1877	Q2SD1877CA00
Q 572	TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
	RESISTORS	
R 550	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 551	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 552	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 553	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 554	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 555 ⚠	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 556	FUSE RES. 1/4W J 4.7 Ω or	RFX44R7UB002
	FUSE RES. 1/4W J 4.7 Ω	5366479
R 557	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 558	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 559	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 560	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 561	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 562	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 563	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 564	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102

Ref. No.	Description	Part No.
R 565	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 566	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R 568	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 569	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 570	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 571	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 572	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 573	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 574 ⚠	CEMENT RES. 5W K 2.2k Ω or	RW05222UB001
	CEMENT RES. 5W K 2.2k Ω or	RW05222KA006
	CEMENT RES. 5W J 2.2k Ω	RW05222LX026
R 575 ⚠	METAL RESISTOR 2W J 1k Ω or	RN02102KE007
	METAL RESISTOR 2W J 1k Ω or	RN02102UB001
	METAL RESISTOR 2W J 1k Ω	RN02102ZU001
R 577	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 578 ⚠	METAL RESISTOR 3W J 56 Ω or	RN03560KE008
	METAL RESISTOR 3W J 56 Ω or	RN03560UB001
	METAL RESISTOR 3W J 56 Ω	RN03560ZU001
R 579 ⚠	FIXED METAL OXIDE FILM RES. 1W J 2.2 W or	RN012R2KE009
	METAL RESISTOR 1W J 2.2 Ω	RN012R2UB001
R 580 ⚠	FUSE RES. 1/2W J 1 Ω or	RFX21R0UB001
	FUSE RES. 1/2W J 1 Ω	RFX21R0KA007
R 581	CARBON RES. 1/6W J 330k Ω or	RCX6JATZ0334
	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R 582	CARBON RES. 1/6W J 220k Ω or	RCX6JATZ0224
	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R 583 ⚠	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 584 ⚠	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 585 ⚠	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 586 ⚠	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 587	CARBON RES. 1/6W J 120k Ω or	RCX6JATZ0124
	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R 588	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 589	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 594 ⚠	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 595 ⚠	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 596 ⚠	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 597 ⚠	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 598 ⚠	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
VARIABLE RESISTORS		
VR 551	CARBON P.O.T. 50k Ω B or	VRCB503KA012
	CARBON P.O.T. 50k Ω B	VRCB503HH002
VR 561	CARBON P.O.T. 10k Ω B or	VRCB103KA012
	CARBON P.O.T. 10k Ω B	VRCB103HH002
MISCELLANEOUS		
BC 571	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2	LLBF00ZXM001
CL 501	LEAD WIRE 4P 570/BLA/AWG26#2651	WX3004S6FF57
CL 575	LEAD WIRE 6P 430/BLA/AWG26#2651	WX3006S6FF43

Ref. No.	Description	Part No.
CL1642	WIRE ASSY	WX1B4800-004
CL1651	LEAD WIRE 6P 160/BLA/AWG26#2651	WX3006S6FF16
DB 4	MODEL NO. LABEL B4800UA	0EM403693
DL 1	SCREW B-TIGHT 3X10 BIND HEAD+	GBMB3100
HS 1	HEAT SINK(PCJ)ASSY	0EM403678
T 571 ⚠	FLYBACK TRANS BSC25-2088S or	LTF00CPS2004
	FLYBACK TRANS FCK-09B001 or	LTF00CPSM016
	FLYBACK TRANS 6174Z-8379C	LTF00CPGS010
T 572 ⚠	H. DRIVE TRANS LP-2	LTH00CPA5001

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following	----------
CAPACITORS		
C 501	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 502	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 503	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 510	CERAMIC CAP. 0.001μF/2KV or	CCD3DKP0B102
	CERAMIC CAP. 0.001μF/F/2KV	6220585
CONNECTORS		
CN 302	CONNECTOR 5P TUC-P05X-B1	JCTUS05TG001
CN 501	CONNECTOR PIN 1P LV or	1700576
	CONNECTOR PIN 1P RT-01N-2.3A or	1730688
	CONNECTOR PIN 1P LV	JTEA000LC001
COIL		
L 501	INDUCTOR 180μH-K-5FT or	LLARKCSTU181
	INDUCTOR 180μH-K-5FT	LLARKDSKA181
TRANSISTORS		
Q 501	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q 502	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q 503	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
RESISTORS		
R 501	METAL RESISTOR 1W J 15k Ω or	RN01153KE006
	METAL RESISTOR 1W J 15k Ω or	RN01153UB001
	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 502	METAL RESISTOR 1W J 15k Ω or	RN01153KE006
	METAL RESISTOR 1W J 15k Ω or	RN01153UB001
	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 503	METAL RESISTOR 1W J 15k Ω or	RN01153KE006
	METAL RESISTOR 1W J 15k Ω or	RN01153UB001
	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 506	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 507	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 508	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 509	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 511	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 512	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R 513	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
VARIABLE RESISTORS		
VR 501	CARBON P.O.T. 10k Ω B or	VRCB103KA012
	CARBON P.O.T. 10k Ω B	VRCB103HH002
VR 502	CARBON P.O.T. 10k Ω B or	VRCB103KA012
	CARBON P.O.T. 10k Ω B	VRCB103HH002
VR 503	CARBON P.O.T. 10k Ω B or	VRCB103KA012
	CARBON P.O.T. 10k Ω B	VRCB103HH002

Ref. No.	Description	Part No.
VR 506	CARBON P.O.T. 200 Ω B or	VRCB201KA012
	CARBON P.O.T. 200 Ω B	VRCB201HH002
VR 508	CARBON P.O.T. 200 Ω B or	VRCB201KA012
	CARBON P.O.T. 200 Ω B	VRCB201HH002
	MISCELLANEOUS	
CL 801	LEAD WIRE SP 280/BLA/AWG26#2651	WX3005S6FF28
JK 501 ⚠	CRT SOCKET ISMS02S	JSCC220PK003

Chassis Electrical Parts

Ref. No.	Description	Part No.
CLN801	WIRE ASSY	WX1B4800-002
L1691 ⚠	DEGAUSSING COIL	LLBH00ZTZ019
SP801	SPEAKER	DSD0808XQ003
V501 ⚠	CRT A23KQU22X01	TCRT190SM012
	WIRE ASSY CRT GND	WX1B4800-001
	LEAD CLAMPER or	1790356
	LEAD CLAMPER	1790256

DECK PARTS LIST

NOTE: Parts that are not assigned part numbers (----------) are not normally available.

Ref.	Description	ID No.
ACH281	ACE HEAD(MK6) HVMXA0014A	DHV3A03AL007
B 1	CHASSIS ASSEMBLY MK6	0VSA08139
B 2	CYLINDER ASSEMBLY(MK6) NTSC 2HD	N6007CYL
B 3	LOADING MOTOR ASSEMBLY MK6	0VSA08112
B 4	MOTOR HOLDER MK6	0VM407676
B 5	CASSETTE DRIVE LEVER ASSEMBLY MK6	0VSA08219
B 8	PULLY ASSEMBLY	0VSA08132
B 9	MOVING GUIDE S PREPARATION MK6	0VSA08228
B 10	MOVING GUIDE T PREPARATION MK6	0VSA08229
B 11	LOADING ARM T ASSEMBLY MK6	0VSA08135
B 12	LOADING ARM S ASSEMBLY MK6	0VSA08134
B 13	LOADING LEVER ASSEMBLY MK6	0VSA08138
B 15	LUMIRROR WASHER 3.1X6X0.35	0VM403269
B 21	LOADING BELT MK6	0VM407712
B 27	TENSION LEVER ASSEMBLY MK6	0VSA08128
B 31	AC HEAD ASSEMBLY MK6	0VSA08124
B 32	REEL BASE ASSEMBLY MK6 T	0VSA08236
B 35	TAPE GUIDE ASSEMBLY MK6	0VSA08127
B 37	CAPSTAN MOTOR F2QTB30	MMDZB12SJ003
B 38	MODE LEVER MK6	0VM202000
B 46	TAPE GUIDE ARM SPRING MK6	0VM407704C
B 47	TAPE GUIDE ARM ADJUST SCREW	0VM403242
B 51	FF ARM MK6	0VM407669A
B 52	CAPSTAN BELT (2) MK6	0VM408223
B 53	P.S.W B	0VM402625
B 54	GROUND BRUSH	0VSA08140
B 73	FE HEAD(MK6) HVFHP0005A	DHVEC01AL003
B 74	PRISM MK6	0VM302723
B 81	M LEVER HOLDER MK6	0VM302711C
B 108	P.S.W F	0VM402629
B 121	WORM MK6	0VM407662
B 122	P.S.W C	0VM402626
B 123	P.S.W (WORM THRUST)	0VM403348
B 126	PULLEY MK6	0VM407661
B 132	CLUTCH ASSEMBLY MK6	0VSA08320
B 133	IDLER ASSEMBLY MK6	0VSA08136
B 142	SHAFT LOCK ASSEMBLY	0VSA04642
B 144	CLUTCH WASHER MK2	0VM404428
B 145	MAIN LEVER ASSEMBLY MK6	0VSA08117
B 148	TG CAP (2) MK4	0VM406389B
B 300	FL ASSEMBLY MK6	0VSA08101
B 302	RACK MK6	0VM302167B
B 303	FRONT DOOR OPENER MK6	0VM302730
B 304	DOOR OPENER MK6	0VM302729
B 308	SLIDER SHAFT MK6	0VM407693B
B 313	C. DRIVE GEAR SPRING MK6	0VM407698A
B 316	DOOR LOCK RELEASE ARM SPRING	0VM402508C
B 317	D OOR LOCK RELEASE ARM (3) MK3	0VM405034D
B 319	CASSETTE SPRING MK6	0VM407984
B 329	HOLDER KICK ARM JOG SHUTTLE MK3 or	0VM301979D
	HOLDER KICK ARM(2) JOG SHUTTLE MK3	0VM302219B
B 332	HOLDER ARM SPRING MK6	0VM408062
B 339	REEL BASE ASSEMBLY MK6 S	0VSA08235

Ref.	Description	ID No.
B 344	CASSETTE GUIDE R MK6	0VM100640C
B 345	CASSETTE GUIDE L MK6	0VM100639B
B 346	FRONT GUIDE MK6	0VM302726B
B 347	GUIDE HOLDER F MK6	0VM302736
B 348	GUIDE HOLDER R MK6	0VM302737D
B 350	SLIDER GEAR MK6	0VM407673
B 351	MIRROR MK6	0VM407713
B 352	CASSETTE DRIVE GEAR MK6	0VM302728C
B 353	CASSETTE PLATE SUB ASSEMBLY MK6	0VSA08217
B 354	SLIDER R MK6	0VM202003E
B 355	SLIDER L MK6	0VM202002C
B 356	LOCK LEVER MK6	0VM302731C
B 357	LOCK LEVER L SPRING MK6	0VM407796
B 358	CAM MK6	0VM100638
B 403	ACH-9A MK6	0VM302725
B 404	ACH-9B MK6	0VM407672
B 405	P.S.W 1.7X3.2X0.5T	0VM403678
B 406	SENSOR GEAR MK6	0VM407668
B 407	M GEAR MK6	0VM407666A
B 408	PRISM T MK6	0VM407670B
B 409	EJECT SPRING MK6	0VM407700A
B 410	PINCH ROLLER ASSEMBLY MK6	0VSA08113
B 411	PINCH SPRING MK6	0VM407702
B 412	S BRAKE LEVER ASSEMBLY MK6	0VSA08118
B 413	M BRAKE T ASSEMBLY MK6	0VSA08119
B 414	M BRAKE S ASSEMBLY MK6	0VSA08120
B 415	S BRAKE LEVER SPRING MK6	0VM407699B
B 416	M BRAKE T SPRING MK6	0VM407705B
B 417	T LEVER SPRING MK6	0VM407706
B 418	TENSION PLATE MK6	0VM407809B
B 419	BT ARM MK6	0VM302721C
B 420	REC ARM MK6	0VM302720C
B 421	REC ARM SPRING MK6	0VM407708
B 425	LOCK LEVER SPRING MK6	0VM407755
B 426	KICK PULLEY MK6	0VM407663A
B 427	KICK SPRING MK6	0VM407701
B 428	P.S.W 1.7X3.2X0.5T	0VM403678
B 429	EJECT SPRING B MK6	0VM407961
B 431	LDG PLATE MK6	0VM408077
B 432	SLIDER WASHER MK6	0VM408078
B 440	CS RING (D=3)	WTK3083
2B 6	DECK GROUNDING PLATE	0VM407975
2L051	SCREW, S-TIGHT M3X5 BIND HEAD+	GBMS3050
L 1011	SCREW, C-TIGHT M3X9 PAN HEAD+	GPMC3090
L 1051	SCREW, S-TIGHT M2.6X6 PAN HEAD+	GPMS9060
L 1053	SCREW, S-TIGHT M2.6X6 PAN HEAD+	GPMS9060
L 1061	SCREW:SPRING PLATE MK6	0VM407914
L 1062	SCREW, S-TIGHT M2.6X8 PAN HEAD+	GPMS9080
L 1081	SCREW, S-TIGHT 3X6 BIND HEAD+	GBMS3060
L 1101	SCREW, P-TIGHT 3X10 BIND HEAD	GBMP3100
L 1151	SCREW, SEMS M3X4 PAN HEAD +	CPM33040
L 1191	SCREW, P-TIGHT M2.6X12	GCMP9120
L 1321	SCREW, P-TIGHT 3X8 BIND HEAD+	GBMP3080

Ref.	Description	ID No.
L 1341	SCREW, P-TIGHT M2.6X8 BIND HEAD+	GBMP9080
L 1402	SCREW, P-TIGHT M2X6 WASHER HEAD+	GCMP2060
L 1403	SCREW, P-TIGHT 3X10 WASHER HEAD+	GCMP3100
L 1406	SCREW, S-TIGHT M2.6X4 CUP HEAD+	GCMS9040
L 1407	SCREW, S-TIGHT M2.6X8 PAN HEAD+	GPMS9080
L 1408	SCREW, S-TIGHT M2.6X6 PAN HEAD+	GPMS9060
L 1412	SPACER SCREW	0VM408071
L 1420	SCREW, P-TIGHT M3X8 BIND HEAD+	GBMP3080

Mode SW CBA (SWV)

Ref.	Description	ID No.
B 422	**Mode SW CBA (SWV)** **Consists of the following:**	0VSA08142
CL 281	PARALLEL WIRE 2P AWG26/GREY/UL2651	WX1N6002-003
R 281	CARBON RES. 1/4W 3.6K Ω ±2%	RCX4GATZ0362
R 282	CARBON RES. 1/4W 1.5K Ω ±2%	RCX4GATZ0152
R 283	CARBON RES. 1/4W 10K Ω ±2%	RCX4GATZ0103
R 284	CARBON RES. 1/4W 22K Ω ±2%	RCX4GATZ0223
R 285	CARBON RES. 1/4W 470 Ω ±2%	RCX4GATZ0471
SW 281	MODE SWITCH HMW0420-910010 or	SSR0104HD004
	MODE SWITCH SSS-27MD	SSR0104KB002

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